THIS MONTH'S COVER is used to symbolize distribution and is explained on page 14.

AUGUST, 1945

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The Magazine that Integrates All Phases of Distribution

THE publication in which shipper, carrier, receiver, warehouseman and equipment manufacturer meet on common ground to obtain and exchange ideas and suggestions for more efficient and economical distribution of raw materials and finished products.

Distribution Age is a clearing house of information for all who are interested in distribution of anything, anywhere from points of origin and production to points of ultimate use and consumption whether sectional, national or international.

Distribution Age takes the position that more efficient and economical distribution is the present major problem of modern business.

TRAILMOBILE SERVICE IN ACTION

Who keeps Butch's bottle full?

In Chicago, chances are, it's the spic-and-span tank trailers, operated by the Dice Motor Delivery for the Bowman Dairy Co. They haul milk from a hundred miles around. Each unit works ten hours . . . hauls 22,000 pounds of milk a day. Laying up a single unit for a working day is serious and delays may mean milk spoilage.

That poses a real problem— how to keep these tank trailers in tip-top shape and free from breakdowns . . . sanitary . . . well painted all the time—and still work them ten hours a day, every day.

The solution. At night the trailer goes into our Chicago Servicenter for anything from a mechanical checkup to a complete repaint job.

Next morning . . . the trailer is on the job completely serviced. No time is lost. Risk of spoilage due to breakdowns is minimized to the *nth* degree. *That's good business!*

It's good business for you, too, to put your service problems—whatever they are— in Trailmobile's hands. Each of Trailmobile's 60-odd Servicenters is equipped to give factory standard service on anything from a mechanical checkup to a complete rebuild job,—economically and promptly. The Trailmobile Co., Cincinnati 9, Ohio; Berkeley 2, California; Charlotte, North Carolina.

Headquarters Plant
Cincinnati, Ohio

TRAILMOBILE

104 Years of Building Transport Vehicles • Sales and Service in Principal Cities

DISTRIBUTION DIGEST

. . . personalities, problems, products and possibilities

Distributor, Ph.D. A fellowship fund, operating much as does the Guggenheim Fund, has been established by the National Wholesale Druggists' Assn. for approved candidates desiring to make a career of distribution in the wholesale drug field. In addition, a model warehouse is to be built around materials handling equipment after pilot studies now being made in cooperation with several warehouse operators are completed. The overall objective is to reduce distribution costs through scientifically integrating all phases of warehouse operation.

Doing it on a grand scale. Dame Rumor is whispering that a large chain operator, in cooperation with a well-known manufacturer, is planning to cut distribution costs to the bone. Small unit manufacturing and assembly plants are to be set up in more than several hundred specific market areas and as each radio comes off the line it will be packaged for delivery in a reuseable container. Large savings in package, handling and transportation costs are expected to result.

Creative or routine? Distribution has a creative quality which is not to be confused with its more routine aspects. It functions, we are told, in the creation of new markets whose development costs cannot be predicated upon a basis of averages nor upon the distributive activity of large operators who are concerned, in a more routine manner, with an already existing demand. The failure of OPA to make this distinction in its control of prices is regarded as threatening the fullest development of newer and smaller enterprises in the postwar period.

Glamorizing the freight train. Why not take a complete, lightweight freight train of modern design, set up a fast schedule between two important terminals, give the train a catchy name and then advertise it extensively throughout the territory served? The suggestion is made by E. D. Campbell, vice president, American Car and Foundry Co., as a means of meeting postwar competition. Why not? Look what Elsie is doing for the milk business!

Experiment. A California distributor of perishables is getting down-to-earth answers out of the sky. Ralph E. Myers, of Salinas, is shipping experimentally from two to five plane loads of fruits and vegetables each week to six eastern markets because he wants to know if aircraft can pick up cargoes at various points of shipment and deliver them to definite destinations on schedule. Other objectives are to find out if present packaging is suitable, and if consumer response will justify the differential between rail and air.

Brothers under the skin. The salesminded executive and the technically-minded engineer are, as the salesman would say, "written in different keys." Most salesmen, we are reminded by writers and speakers on distribution topics, agree wholeheartedly that postwar distribution must be approached and solved on a "factual" basis; yet, paradoxically, some are inclined to shudder, if for the word "factual," the word scientific or engineering is substituted. It is suggested by at least one writer that possibly there is in sales useage a distinction between the words "factual" and "scientific." Perhaps when the salesman uses the word "factual" he means "scientific" minus the traditional, but not-necessarily-so, scientific personality.

Agreement with this publication's oft reiterated thesis that distribution properly begins with the origin of raw materials and ends only when a finished product reaches the consumer, is evidenced by the definition appearing on the National Assn. of Mfrs.' program of "Distribution Clinics." The definition recently formulated by Fenton B. Turck and adopted by the management division, American Society of Mechanical Engineers, states that distribution is "the total of all activities involved in the progression of goods from producer to consumer. It includes warehousing, transportation, advertising, wholesale and retail marketing, and a substantial part of research, accounting, engineering, and financing."

Black market advertising. We may blind our eyes as we will, the black market is an established part of our distributive system, according to some writers in the business press. To the suggestion, made somewhere, that incorrigible black marketeers be identified as such by a distinguishing mark—a bar sinister, as it were—placed on their windows, it has been facetiously objected that such identification would be opposed by legitimate, conscientious dealers everywhere as *unfair competition.* They find it hard enough to get along as it is. Why advertise the black market?

Euphemism? It is being advocated that for the label "labor saving," long affixed to materials handling equipment there be substituted the label "labor aiding." The suggestion is brought forward on the ground that it might improve labor-industry relations. A commentator on the proposal points out that while it is true that in the long run, mechanical handling increases rather than curtails employment, on the other hand, it is equally true that the bulk of all materials handling equipment is sold by virtue of its present "labor saving" label. In times of full employment, he states, it makes no important difference which label is used, while in times of unemployment, empty stomachs are disinclined to appreciate verbal felicities. The really important thing, he concludes, is to see to it that our distributive system is hitting on all cylinders.

Three-season shoe plan. Consumer demand is the touchstone which sets in motion the mechanical processes of manufacture and the various ramified but related processes of distribution which end only when goods have reached the ultimate consumer. In a posthumous editorial foreseeing improved efficiency in the shoe industry through the simplification afforded by the "three-season" plan, the late Arthur D. Anderson, editor of *Boot and Shoe Recorder*, tells us that consumer buying habits form themselves into three distinct buying seasons—spring, summer and fall. The "three-season" plan is regarded as having the merit of being a natural follow-through already tested by many organizations as a better way to serve.

A prediction to the effect that palletizing will result in differential ocean freight rates is made by L. W. Byrne, of the New York Port Authority . . . Mr. Byrne, who for more than 20 years has been actively associated with port development in New York, is regarded as an authority on port and marine freight topics. He is now lecturing under navy auspices at the Bayonne Naval Supply Depot on marine terminal administration and operations. A series of lectures at New York University, conducted for the past two years under the sponsorship of the War Shipping Administration, and addressed to army and navy personnel, has recently been concluded.

STATEMENT OF P

WITH this issue, DISTRIBUTION AGE becomes the name of this publication. For the past eight years, it has been known as *D and W*, a contraction of *Distribution and Warehousing*, under which full title it was published from 1919 to 1937. Previously, from 1914 to 1919, it was known as *Transfer and Storage*. Before that, it was called the *Team Owners' Review*, the name under which it was first issued in 1901.

For a period of 44 consecutive years, it has had an honorable and a distinguished record of achievement as a business paper. Each change of name was made to broaden the scope of the paper's editorial coverage and to increase its usefulness among executives concerned with shipping, handling, warehousing and other phases of distribution. That is the case also in the present instance.

In adopting the name DISTRIBUTION AGE, we, who are associated with it, have a threefold purpose: first, to designate more clearly the kind of paper it is; secondly, to make it literally, "the magazine that integrates all phases of distribution," and, thirdly, by so doing, to help make possible more things for more people through more efficient and economical distribution.

We consider distribution the major problem of modern business. We believe it is a neglected problem, a confused problem, and one that has been grievously misunderstood, because most of the different phases of distribution have been regarded erroneously as separate activities rather than as integral parts of a whole. We are entering a distribution age, a period in which the ramified problems involved in the movement, storage and marketing of commodities will require more intelligent supervision and integration than they have ever received. It is our purpose to make this publication fulfill in name and in fact the needs of the times. We propose to make DISTRIBUTION AGE a clearing house of information for executives who are responsible for policies that affect the movement of commodities in commerce. We shall not confine ourselves to any one industry or type of business. Every business is engaged in and affected by distribution.

All firms, industrial and mercantile, are shippers as well as receivers; all use transportation; all are confronted with handling and packing problems; all are concerned, to some extent, with the proper storage of raw materials or finished products; all have to deal with vexing financial and marketing questions. These are all parts of the overall problem of distribution, which begins before production starts, with the movement of raw materials, and continues after production ends, until a finished product reaches its ultimate destination, the final user or consumer.

As symbolized by the illustration on the cover of this issue, "around every circle another can be drawn . . . every end is a beginning." The symbol is applicable in several senses. With respect to the history and policies of this publication, it delineates the different phases of its evolution. Each change of name may be likened to a circle spreading outward from a point of origin; circle beyond circle, each expanding its scope and circumference. In another sense, similar connotations are valid in regard to distribution: handling and transportation, warehousing, packaging, marketing, financing and other seemingly distinct and separate services and activities, are like circles within circles, interrelated parts or sequences of a process; each is a

PURPOSE AND POLICY

development, an extension, an amplification occasioned by movement.

A man may consider ripples on the surface of a pool caused by a dropped pebble a very minor matter, or he may regard it as an interesting problem in physics that can be used to help him understand other phenomena. The same is true of distribution, which may be regarded merely as merchandising, or marketing, or transportation, but these are only parts or phases of distribution, circles within circles, aspects of a greater whole.

Fortunately, more people are beginning to realize this. People are beginning to see that distribution is not merely a local, individual or regional matter, but rather an overall problem that affects everybody and every commodity everywhere. It is fundamental to our whole national economy. Consequently, a clearer understanding of the interrelation of the parts to the whole is essential if the functions of distribution are to be evaluated more intelligently and profitably.

With broader concepts of distribution, it becomes obvious that simplification and standardization of basic methods and practices would contribute materially toward making distribution more efficient and economical. No such standards have ever been established in distribution in any way comparable with production standards. It seems manifest that until practicable distribution standards are developed in all industries, maximum efficiency and economy of operations will be difficult to attain anywhere.

We believe it is not only possible but necessary to make distribution more efficient and economical. If distribution costs can be lowered, and a part of the resultant savings passed on to consumers, to increase consumer buying power, it will mean more things for more people, which, in turn, will mean the preservation of free enterprise, economically, and of democratic processes, politically.

We have had occasion recently to outline several feasible things that can be undertaken in the direction of simplification and standardization. Some of these suggestions, as well as other ideas of similar character, will be presented in subsequent issues of this paper

To the attainment of these ends we dedicate our energies and talents. We shall endeavor to publish constructive and informative material on all phases of distribution. We shall search out new ways and means of fostering ideas that will help make distribution not only more efficient and economical, but, also, if possible, more remunerative for all branches of commerce and industry.

To the realization of these things we earnestly solicit your cooperation and support. Your criticism and advice will be helpful and appreciated.

In conclusion, we find it necessary to add that we should not have had the temerity to undertake such an ambitious program were it not for the generous expressions of cooperation and confidence that we have received from many executives in many fields of business, which we hereby publicly and gratefully acknowledge. If we can achieve, though it be in part only, some of the expectations of our friends and well-wishers our labors will not be in vain.

Industrial Design . . .

By MARTIN ULLMAN
Industrial Design Consultant

Why are there so many production engineers, and so few distribution engineers? Why is production so efficient, and distribution so wasteful? Why is production so economical and distribution so costly? This article answers these questions, and shows how industrial design can aid distribution.

The articles of Martin Ullman, of which this is the first of a series, have much to offer all who are interested in distribution. They will show how industrial design can be used to effect efficiencies and economies in every step of distribution. They will demonstrate how product design affects containers; shipping practices; handling operations; traffic management; the payload of carriers; warehousing; and most elements of marketing.

Mr. Ullman will explain in practical terms how each of these factors in turn affects all succeeding ones, and how, by better integration of the parts, distribution as a whole can be made more efficient and more economical.

A successful industrial designer since 1924, Mr. Ullman has written many magazine articles on various phases of industrial design, and has collaborated with the authors of several books on packing and packaging. He has designed containers and display fixtures for many nationally advertised industrial and consumer products.

As a product designer, packaging consultant, and architect, Mr. Ullman has received many national awards for meritorious work.— THE EDITOR.

INDUSTRIAL design is the keystone of efficient and economical distribution.

This statement constitutes a new conception, and like all new conceptions, it will stand a better chance of running the gantlet of public scepticism if it is explained at the outset. What then, is meant by industrial design as applied to distribution?

It means the scientific study of all phases of distribution so that, through integration of the parts, the whole process will become more efficient and profitable. It takes into consideration the fact that product design affects containers; shipping practices; handling operations; traffic management; the payload of carriers; warehousing; and all phases of marketing. It recognizes the fact that each of these factors, in turn, affects all succeeding ones.

Vital Questions

It is as logical, as important, and has as many financial implications to business as has the generally accepted idea that industrial engineering is the keystone of production.

Why then, are there so many production engineers and practically no distribution engineers? Why is production so efficient, and distribution so wasteful? Why is production so economical, and distribution so costly?

Perhaps the answer to these questions is that while production is a vertical proposition, distribution is essentially horizontal in scope. Let us consider the case of a typical manufacturer, who makes his product on his own machines, by his own methods, in his own factory, with his own workers. Any reduction in production costs is immediately visible in the form of profits.

Reduction in Cost

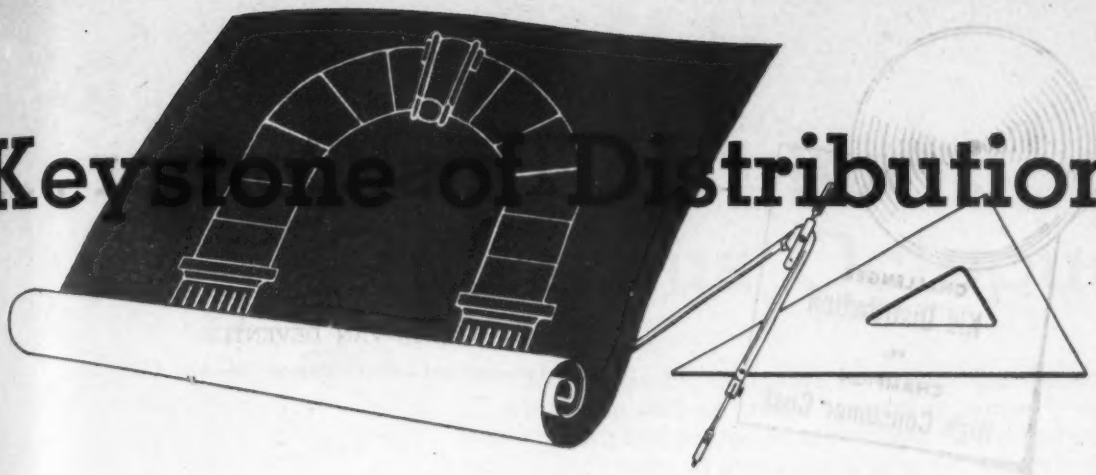
When the product has been completed, it is often placed in a package purchased from an outside firm; handled on equipment produced by someone else; shipped on carriers in which he has no financial interest; stored in a warehouse with whose operation he has no concern; and marketed in outlets over which he has no direct control.

Our manufacturer knows that if there were a reduction in cost anywhere along the line, some of the savings would eventually accrue to him. However, he assumes, correctly, in most cases, that all these factors in distribution are operated as efficiently as is his own organization. How, if this is true, can the process of distribution be improved?

Here is how, through the application of scientific packaging, a part of industrial design, this question was answered by Munising Paper Co., Chicago. This company, for many years, had been packaging its Caslon Writing Bond in a conventional kraft paper wrapper of trade size.

A study revealed the following distribution disadvantages:

Keystone of Distribution



1. Packaging time was wasted, because the product was wrapped before being shipped.

2. Materials were being wasted, since the wrapper was always thrown away.

3. Handling, shipping, and warehousing were made difficult and costly by the fact that the trade size package was large and unwieldy.

4. The product, in its original package, had no advantages in trade use that would make it more desirable to dealers.

5. The original carton had no advantages in consumer use that would make it easier for dealers to market than similar competitive items.

A package was designed that overcame all these disadvantages. It consists of a cardboard container which opens at one narrow end by means of a die-cut flap. This flap arrangement, which can be opened or closed with a finger, does away with wrapping and sealing. The new carton is small enough, and has sufficient strength, to permit easy handling and high stacking in carriers and in warehouses. Because of the new package, the product can be cut to consumer size before it is shipped from the plant.

Very important are the advantages in trade use and in consumer use offered by the Caslon Bond package over containers holding competitive products. These advantages have stimulated the marketing, or profit making, phase of distribution.

The new package, since it makes possible sale of the product in smaller lots, has attracted many new dealers. The dealer, who is usually a printer, is relieved of the task of cutting the paper to consumer size. In addition, after printing his letterheads, he can repack the finished job in the same container.

Advantages in Use

In the office of the ultimate consumer, the Caslon Bond package unit has many advantages. It fits easily into a desk drawer. Even though note books and similar office paraphernalia are placed on top of the box, a single sheet or many sheets of paper can be removed simply by lifting the flap. There is no danger of paper being spoiled, since its surface is never exposed to carbon particles or other types of office dust. In the office storeroom, a few sheets of paper may be removed from any box in a stack without disturbing the remainder of the stock. The necessity of taking a box from the top of the stack, opening it, removing paper, putting the top cover back on, and returning the box to the top of the stack is obviated.

Just as packaging came to the aid of the Munising Co., packaging, product design and architecture have solved and will solve problems in distribution for many American business organizations in the future. All industrial design asks of management is to be given a chance. According to all the rules of logic, management must give it a chance.

No matter how good his bookkeepers are, the average business man will call on outside accountants to check the profit and loss sheet. No matter how proficient his own plant mechanics may be, the business man calls in outside experts to check his production line. But no matter how poor his distribution system may be, the average business man tries to solve his difficulties with personnel and resources within his own organization. Production-minded people have been asked to solve distribution problems. Is it any wonder that they have fallen short of practical accomplishments? Is it not reasonable to suppose that management will now turn to the industrial designer?

Product Comes First

Let us follow through on the steps an industrial designer takes when he is called in to study a manufacturer's distribution problem.

He starts with the product itself, studying its shape and form for practicability of physical distribution and for consumer acceptance. He studies the packing and packaging of the product from the standpoints of strength, physical appearance, economy, value to the consumer, and ease with which it may be handled and transported.

He makes a survey of shipping practices, methods of transporta-

(Continued on page 79)

"In This Corner . . ."

By J. H. VAN DEVENTER

President and Editorial Director, The Iron Age

ONE who has been a student and observer of industry and commerce for the past 40 years must have seen many changes. I have. Among them, of course, have been many new products and new industries, as well as the decline and decadence of some old ones. Practically the entire development of the automobile industry and by far the larger part of what we now know as the "electrical industry" occurred within this span of years. However, I am not thinking so much now about these obvious material changes as I am about the changes that have taken place in managerial ideas.

Ideas are strange things! You cannot put your finger on them nor analyze them by weight, measure or chemical composition. Perhaps some day we may discover what makes them and where they come from or even have some brilliant electronic engineer invent a machine to weigh and measure them.

Unweighed, Unmeasured

In spite of the fact that no one has ever yet seen an idea, weighed or measured it, or been able to grasp it physically in his hand, ideas are the most powerful things that we deal with in business and in industry. An idea is the forerunner of every physical accomplishment and thousands upon thousands of them have to be generated before we can get a skyscraper, a battleship or a new breakfast food.

The battle of our "idea men" to free humanity from the unnecessary shackles of poverty, by developing the use of nature's bountiful resources, has been a continuing one. Primarily in the past, the emphasis of this effort has been to increase productivity. Under this urge our highly trained efficiency engineers have gone through our manufacturing plants with fine tooth combs searching for eradicatable wastes and choke-points. As a result of this concentration of effort, costs of production have been reduced to almost unbelievable levels.

But as an ancillary result of this tremendous pressure upon production cost, total cost, of which production is but a part, has undergone considerable change in the relative weighting of its principal factors. These factors, aside from materials, are production, marketing and distribution.

In the Old Days

In the old handicraft days, marketing and distribution were but minor parts of total cost. The intending purchaser of a pair of shoes or a rifle mounted his horse and rode to the little shop which housed the community shoemaker or gunsmith. When the laborious hand work of making the goods was completed, the customer again made the journey to call for them. Production, then, plus materials, probably amounted to 90 per cent or more of the total cost.

Today, under our much more complex system and with the remarkable economies effected by mass-production and improved machines, marketing and distribution involve well over 50 per cent of cost for most products and even more if we interpret distribution in its true sense, that is, by including transportation within the factory as well as outside of it.

The great economic battle of the postwar period, as I see it, will not center so heavily on reducing production costs, which are already amazingly low, but on cutting the wastes and inefficiencies from distribution and marketing costs, which are relatively high.

Among the changes in managerial ideas which have taken place in the past three or four decades, I would rate at the top, or nearly there, the conception of the fact that we have to do to marketing and distribution what we have done to production, namely, give them a first class overhauling.

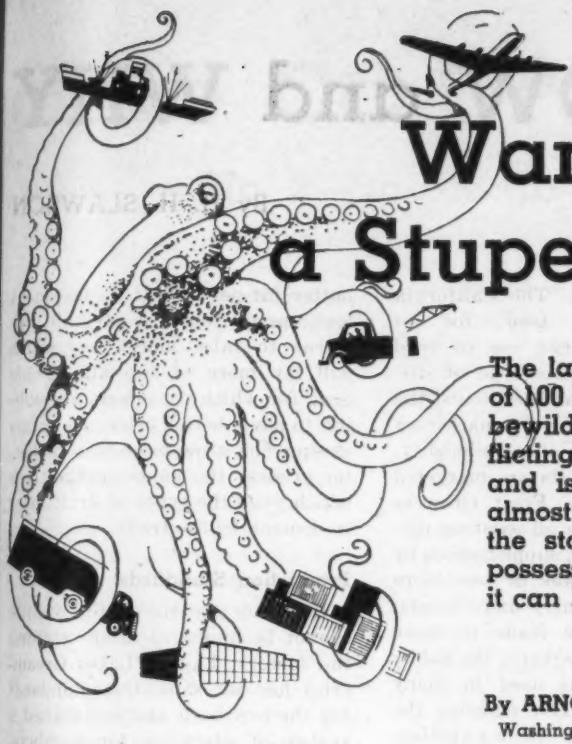
The Next Peak

I am thinking now particularly of distribution because it is not only one of the largest elements of total cost, both inside and outside of our factories, but also because we have reached a stage of development that makes it vulnerable to scientific attack.

Distribution engineering, in my opinion, has a future ahead of it as bright as has been the past and is the present of production engineering. It is the next peak to be scaled by the pioneers who have set out to make more goods and services available to more people at less cost.

I do not think that enough people,

(*Continued on page* 65)



War Surplus . . . a Stupendus Octopus

The law made by Congress to control the disposal of 100 billion dollars worth of surplus property is a bewildering hodge podge of contradictions and conflicting purposes. It gives preferences to everybody, and is virtually unworkable because there are almost 250 other laws regulating surpluses still on the statute books. If any governmental agency possessing surplus property wishes to sell a tidbit, it can by-pass the Surplus Property Board, morally or legally, with perfect impunity.

By ARNOLD KRUCKMAN
Washington Correspondent

THIS stupendous octopus of war surpluses had its original government source in Congress. Its tentacles spread into administrative government agencies, into the White House, into various war agencies, and among the millions of people in almost every community, certainly in every state of the Union.

The law made by Congress to control the disposal of 100 billion dollars worth of surpluses is a poor law; it is even worse, it is virtually an unworkable law. This statement is not merely my own opinion, it is the opinion of Will Clayton, who once was head of surplus disposal and who refused to carry on and told Congress the law it finally adopted would not work. Also, it is the opinion of former Senator Guy M. Gillette, present head of the Surplus Property Board created by the law, who left the job on July 15 because he felt it is not possible to administer the disposal of surpluses under the present law.

The law is a bewildering hodge podge of contradictions, conflicting mandates and purposes, and, worst of all, it tries to give preferences to everybody and everybody's brother and sister in the right to acquire surpluses. Moreover, it leaves practically all of the more than 250 laws already on the books. These legalize disposal of government property, without clearly, or even dimly, setting up any sort of boundary for the exercise of the authority which numerous government agencies and government officials have to sell or transfer government property, regardless of the Surplus Property Board. In essence, the core of the trouble for which Congress is responsible are those preferences for government agencies, for veterans, for states, communities, and even for institutions both domestic and foreign. There is a limit to the priorities which must be given by Congressional mandate as contained in the law; but even though specific agencies and institutions are enumerated as the beneficiaries of the preferences, the exercise of those preferences lead into such a labyrinthine maze that they open the avenue of special favors to others.

A Grab Bag

This surplus problem, and this surplus grab bag, naturally is close to the hearts of millions. It is the pressure these millions, in all walks of life, and in all spheres of activity, have put on Congress that has made the law almost purely a political enactment. We here in Washington do not presume to blame the people out there in the wide open spaces for the heat they have put on Congress, but we do think the rest of you should understand, so that you will not wholly blame the Congress for what has happened.

The White House apparently got the fever from the Congress. President Truman's predecessor carried a world burden; and he had many domestic political obligations. The men he picked for the Surplus Property Board are unquestionably good men, but just as unquestionably they are good politicians, powerful politicians, but they would scarcely receive medals for their distinction as business men. Senator Gillette stands head and shoulders above the other two as a realist with all the practical instincts of a business man. As such, he could not take it and got out. Robert A. Hurley is said to have been a good Governor of Connecticut. Lt. Col. Edward Heller, member of the prominent banking family on the

(*Continued on page* 96)

The HOW and WHY o

By H. H. SLAWSON

IN the first of this series of articles on the agricultural cooperative associations, published in the June issue of this paper, the movement's tremendous scope was suggested by the presentation of statistics, and a brief, general outline was presented of the system's organizational structure. Proceeding from there, let us see whether cooperative distribution methods cut marketing costs.

These farmer associations, as has been pointed out, are not organized primarily to make "profits." But they do have a very selfish purpose. Their objective is to improve the farmer's economic position.

Marketing Practices

This is accomplished, not by forcing the consumer to pay more, but rather by eliminating from the marketing process some of the unnecessary operations which, by other distribution methods, tend to reduce the farmer's share of the consumer's dollar.

When existing marketing machinery can be used to advantage, the co-ops use it. The California Walnut Growers Assn., for instance, makes large use of food brokers because this type of distributing agent has been found the most practical means for marketing the Association's one commodity, Sunkist citrus fruits are marketed by the California Fruit Growers Exchange through all existing distribution channels, supplemented by its own sales offices in two score cities in this country and Canada. Private sales are made in more than 600 carlot markets; the public auction system is used in many markets and in Los Angeles the Exchange operates its own auction.

When middlemen are not considered necessary, or when a cooperative representative in a market will do a better sales job at less cost, customary market channels are bypassed and the savings made go back to the farmers.

The spread between what the consumer pays and what the farmer gets is reduced also in other ways. Starting at the farm, the producer is taught how to get more butter fat per cow at a consequent lower production cost per unit. He learns to raise more hens which will lay more of the high grade eggs for which consumers are willing to pay a better price. He raises sheep whch grow more wool of better grades. He plants orange trees which yield the types of fruit most in demand by the trade.

Production Standards

Realizing that the quality of milk cannot be improved after reaching the factory, Land O'Lakes Creameries has set sanitation standards for the cow barn and established a system of education for members, supplemented by premiums for quality, and has developed a highly standardized product of uniform quality. Each carton of butter scoring 93 or better bears a certificate of quality, authorized by independent and unbiased federal or state inspectors, which consumers know to be their guarantee of first class butter.

California Fruit Growers Exchange standardized orange pro-

Women with gloved hands grade and pack freshly washed lemons at a California citrus co-op.

Wool shearing contests conducted by wool marketing co-ops encourage production of more fleece.

of the CO-OPS

No. 2—Do the Co-ops Cut Distribution Costs?

duction by supplying members with buds from trees with a known high production record of fruit having desirable characteristics. In one 17-year period 5,861,649 buds from 5,912 approved trees were distributed and new orchard stock started.

Assembling products from many farms, the co-op managements grade and sort the eggs, oranges, wool and other farm products, and pack and ship them for sale by grade in the market which offers the best price.

Products and By-Products

Care is taken to see that the product reaches the best market at the most favorable time and that no more is shipped than the market can absorb. Price depressing effects of over-supply are avoided and losses from storage charges and deterioration held at a minimum. Individually, any farmer would be utterly helpless to effect such results and, in fact, would be at the mercy of interests waiting to take advantage of his helplessness.

Further to reduce marketing costs the co-ops do other things. Fruit of inferior grade is kept off the market to prevent competition with the more desirable supplies, but the culls are not wasted. Poor apples are turned into apple sauce. Oranges which nobody would buy to eat reach the market as juice, marmalade or pectin and the refuse from the processing goes back to the farm as cattle feed or fertilizer. Surplus milk becomes casein for plastics or paint, and eggs are dried and powdered for many commercial purposes. Thus, like the meat packers, the co-ops "save everything but the squeal" and their research laboratories are continually working for other economies.

Costs Deducted

Purchase of shipping supplies, crates, barrels, bags, wrappings, bought at wholesale, plus expenses, further offer economies in cooperative marketing operations. The farmer is billed at current retail prices and, after costs are deducted,

(*Continued on page* 95)

EDITOR'S NOTE: This is the second of six articles on the farm cooperative associations and their relation to and effect upon current practices in distribution. The first article which appeared in the June issue explained why the farm co-ops are big business and outlined the organizational structure of some of the leading associations. Articles to follow will deal with the following topics: No. 3. The Co-ops Go Shopping; No. 4. The Farm Co-ops Are "Human;" No. 5. The Co-ops Face a Challenge; No. 6. Co-ops for City Consumers.

The author of this series, a newspaper and magazine writer of many years' experience, formerly was associated in an editorial capacity with one of the large general farm organizations and later with cooperative groups. Since severing these connections, 13 years ago, he has been engaged in writing on business topics.

Egg candling to insure co-op quality is routine at the Seattle headquarters of Washington Assn.

Interstate Associated Creameries, Portland, Ore., is one of many farmer butter marketing enterprises.

Retailing . . .

By MAJ. BENJAMIN H. NAMM
President
National Retail Dry Goods Assn.

On the road of distribution, leading from raw materials to the final user of a finished product, merchandising represents the last stop, the point of contact with the consumer. No matter how smooth the first part of the road, it is what happens at this final point that determines the success or failure of the whole distributive system.

Maj. Benjamin H. Namm, in addition to holding the presidency of the National Retail Dry Goods Assn. and The Namm Store, is governor of the N. Y. Curb Exchange, a director of The Aviation Corp., and vice president of the Downtown Brooklyn Assn.

Since the outbreak of the war, Maj. Namm has served as chairman of the Retail Advisory Committee, U. S. Treasury; special assistant to the Director of Civilian Defense; and executive director of the U. S. Purchasing Commission in Brazil.

He is a vigorous exponent of the importance of retailing to the success of distribution, and a staunch believer in the free enterprise system. Maj. Namm points out that the continuance of that system in the United States depends upon how well management solves the problem of postwar distribution.—The Editor.

PROJECTING their thinking beyond their own immediate problems, retailers on the whole have carefully weighed the potential difficulties into which final victory is likely to usher both retail distributor and consuming public.

They have watched, with intense interest, the development of various plans for the postwar era in which the major emphasis has seemed to be on production. At least, this, until very recently, has been the trend of thought on the part of many American business men.

The major problem in the postwar era will be distribution. If distribution is to be made more efficient and economical, it must be considered as an overall problem which begins with the movement of raw materials and is continuous until a finished product has reached its ultimate destination, the final user or consumer. In this overall picture of distribution, merchandising represents the point of contact with the consumer. No matter how good the distributive system may be, it is this final point of contact that determines the success or failure of the whole system.

Great Sales Job

So far as the retail industry itself is concerned, it has long been recognized that to accomplish the gigantic purpose of an accelerated annual volume turnover in this country of something like 40 to 50 per cent in excess of the 1940 record, with resultant greater employment, retailers of the nation, both large and small, must do the greatest selling job in all their history.

Retail Distribution Costs

I HAVE had the privilege of a preview of Major Namm's article "Retailing, The Last Stop" in this issue of DISTRIBUTION AGE. The fact that the Major is one of my dearest business and personal friends makes it tough to disagree with him. His article on the whole says a mouthful and I liked it, but where he states that there has been too much talk about the high cost of distribution, then I balk, because to me it is evident that such costs must be lowered.

It is perfectly true that distribution costs must be considered as beginning with raw materials and carried through till the finished product is doing its bit in the hands of the consumer. Having been a department store man most of my business life, my heart is wrapped up in store operations, and store profit. And I maintain, and have for years, that department store costs can and must be cut, particularly right now while these stores face the greatest postwar competition they have ever had or dreamed of.

The Controller's Congress figures have consistently shown a ridiculously low net profit for the department stores of the country up until the war began. The total operating expenses dropped from 35.1 per cent in 1939 to 28.7 per cent in 1943. That drop, of course, is largely accounted for by a 65.36 per cent increase in sales. Also because of loose spending the "returns" per cent to gross sales dropped from 9.2 per cent to 6.3 per cent, and the "markdowns" dropped from 6.7 per cent to 4.2 per cent. However, if but a part of the reduction caused by Government regulations could be salvaged (held on to) it would account for more than the average net profit of the stores over a long period of

the Last Stop

The nation's two million retailers employ nearly six million people, and provide additional employment, indirectly, for countless millions in factories and on farms. Last year these merchants did a volume of business of approximately 69 billion dollars, and were responsible for several billion dollars in federal, state, and municipal taxes.

There is probably not a single merchant in the country who is not fully alive to the fact that the time has long since past when a retail store was simply a place where goods are bought for, and sold to, the consuming public. They are aware of the fact that a modern store is much more than that. It is a vital part of the lives and hopes of a vast number of people, including those who serve it, those who patronize it, and those who regard it as an integral part of the community they love.

Gradually, stores are becoming increasingly mindful of their responsibilities to those they employ. They are becoming more and more aware that they cannot successfully "sell" their store to their customers until they have effectively "sold" it to their employes. Because of this enlightened approach to an age-old problem, good employe relations have become inextricably bound with good public relations.

Retailer's Place

As to the store's place in the community, I venture the opinion that, in many respects, the retailer has become one of the most important factors in American life. He is one of the largest employers of labor, one of the largest taxpayers, and he is invariably the largest advertiser. As a result, he is a potential rallying point for civic development and morale building in his community.

What is the place of the retailer in our future economy? The one postwar problem that will tower above all the rest is that of increased employment. Jobs will be needed for 10 million additional workers. A total of from 45 million to 55 million jobs will be required.

It must be clearly recognized by everyone that continued large-scale unemployment will not be tolerated after the war. It will not be tolerated by returning service men and women, or by those now en-

(*Continued on page* 89)

Must Be Cut

By D. ALLYN GARBER
Vice President and Editor
Department Store Economist

years, and the stores are entitled to more profit than in the past.

Too many merchants feel that the only thing that has kept them in business, competitively with chains and mail order houses, has been "service." Of course, to a reasonable extent this is true, but the merchants have so competed with each other to be out front with the most giltedge services that it has become an obsession. Lavish services never have been the demand of the customer. The only service competition that should exist among department stores is to do the best work in job evaluation and have the most intelligent buying and selling staffs. Then they will give the finest service possible.

The *Department Store Economist* sent out a questionnaire to hundreds of stores throughout the country a couple years ago. We wanted to get all the information we could on delivery systems, condition of equipment, etc. Among the questions we asked was what they planned for postwar delivery schedules to customers. Over 70 per cent said they intended to go back to prewar delivery service, meaning two a day in many communities and even three in some; also meaning in many towns special delivery in between regular, at no cost at all.

This stirred the *Economist* to making a consumer survey, and it was done in first-class fashion. We queried 11,605 charge customers in seventeen cities, customers in the higher brackets as well as those in the medium and lower brackets. Seventy-three per cent of the customers said that they would be sat-

(*Continued on page* 24)

You Can Transfer, But Not Eliminate The Function of Wholesaling

By CHAS. J. HEALE
Vice-president and Editor Hardware Age

WHOLESALING is an indispensable function in the distribution channel through which consumer goods flow from factory to ultimate user. It embraces all of the essential marketing services required from the time that finished goods are shipped from plants until they are delivered to retail stores.

While it is true that the position of the exclusively wholesale firm has weakened, and that many have actually passed from the picture in certain merchandise fields, this is definitely not true in the hardware, drugs, jewelry, automotive and electrical appliance fields. In those fields the wholesaler actually is stronger. The services he performs have broadened in scope on an economically sound basis.

In those businesses where exclusively wholesale firms no longer exist, or where their status has been greatly diminished, we submit that the function of wholesaling has neither been diminished nor eliminated. It has merely been transferred and must be performed in full either by producer, or retailer, or by some other so-called middleman factor.

A manufacturer with a string of branch offices, including display rooms, inventories, credit facilities, local sales organization, etc., is not therein performing a production operation but is rendering, for himself and customers, a wholesale function which he has not eliminated but merely has transferred, sometimes efficiently and economically and sometimes not.

Costly Trimmings

The elaborate headquarters and branch buying offices and the scattered divisional warehouses operated by mail order and chain store organizations are not retail operations but represent a transfer, not an elimination, of the basic function of wholesaling.

In principle, the same situation maintains when groups of retailers pool their buying, formally or informally. In fact, in several fields there are notable examples when such retail buying pools have steadily gravitated into full bloom wholesale distribution organizations. Some of them compete favorably, and on a large scale, in volume and services with exclusively wholesale firms in their respective fields.

Also, it must always be remembered, that in most retail fields, the majority of stores represent relatively modest volume operations which would not support the time nor the costs involved in attempting to eliminate the wholesaler or the transfer of his functions to the individual merchants who operate these thousands of stores. They couldn't begin to afford the quantities which would permit economic direct selling by producers in most of the lines carried and would have time for nothing else but the buying, if even that. Smart retailers know that their profits come only from completed sales to consumers. Only a mere handful of the nation's retailers could afford to take over the wholesale functions which, we repeat, can be transferred but cannot be eliminated.

Retail Distribution Costs Must Be Cut

(*Continued from preceding page*)

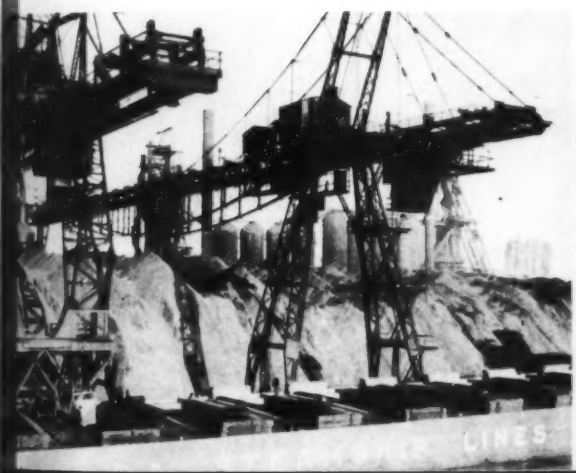
isfied with the present two deliveries a week; 86 per cent had no objection to the continuation of open charge account limitations similar to those now in effect; 80 per cent would not object to a $1 to $2 minimum for C.O.D., mail and telephone orders.

The customers made it clear that they want convenience, not luxury. When asked to what degree such services as liveried doormen, free check rooms, elaborate rest rooms, etc., would influence their choice of stores after the war, only 8 per cent said "heavily"; 36 per cent said "moderately"; and 56 per cent "not at all." Although customers voted 64 per cent for the privilege to help themselves as much as possible, still, when asked a supplementary question, 57 per cent said they want reasonable salesperson service. We maintain that if stores in each community will get together and not outdo each other in services, they will effect a saving definitely worthwhile.

I am sure that this article will cause no cooling in the close relationship between my dear friend Major Namm, and me. In fact, I think we both feel the same way but express it differently.

DISTRIBUTION STARTS BEFORE PRODUCTION WITH THE MOVEMENT OF RAW MATERIALS

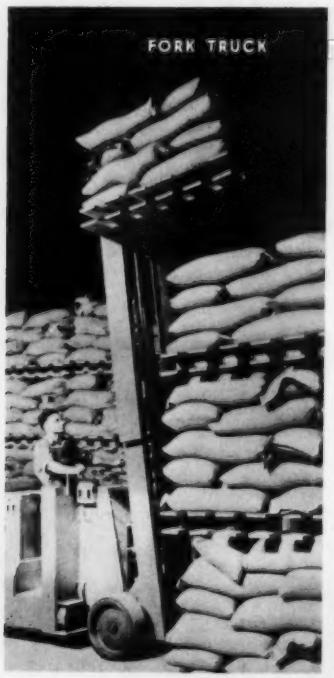
. . . and continues after production ends, until a finished product has reached its ultimate destination, the final user or consumer. Consequently, handling and transportation, finance and insurance, packing and packaging, warehousing and marketing, service and maintenance are all integral parts of distribution. Though separate activities, they are as completely interdependent as the links of a chain. In the years ahead, if there are to be more things for more people, distribution must be made as efficient and economical as production, through clearer understanding of the inter-relation of the parts to the whole, and by commonsense simplification and standardization of methods and practices. This is the concept of *DISTRIBUTION AGE*, "the magazine that integrates all phases of distribution."

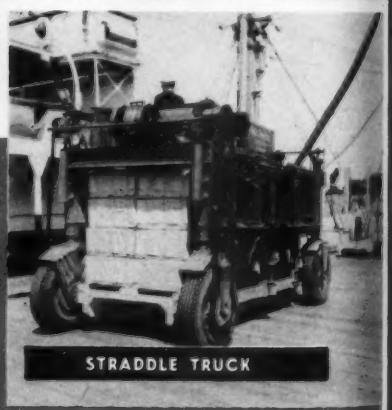


FOREST

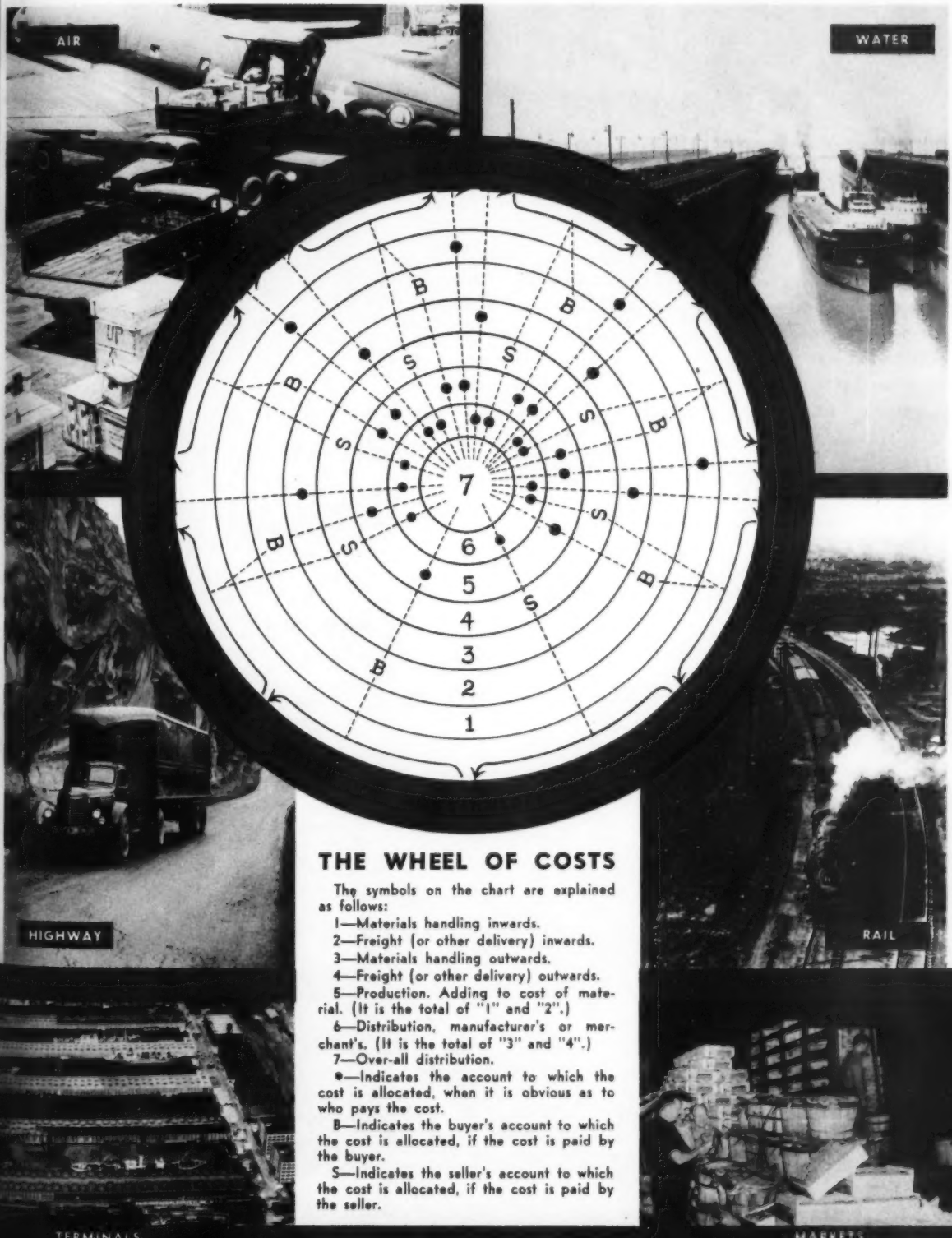
SEA

Efficient mechanical handling of raw materials and finished products, in bulk, in packages, and in palletized units, can help reduce distribution costs. Better handling can expedite packing; speed-up transportation; minimize insurance costs; keep down storage charges, and step-up marketing operations, all of which tend to increase profits by making faster capital turnover possible. Thus, improved handling helps to improve all other phases of distribution.





Handling and transportation are inseparable and indispensable twins of distribution. Nothing, from raw material to finished product, can be distributed without being handled both before and after it is transported. Yet little could be shipped, by air, highway, rail or water, without packing and packaging, finance and insurance, warehousing and marketing, service and maintenance. These, also, are inseparable and indispensable parts of distribution.



THE WHEEL OF COSTS

The symbols on the chart are explained as follows:

1—Materials handling inwards.

2—Freight (or other delivery) inwards.

3—Materials handling outwards.

4—Freight (or other delivery) outwards.

5—Production. Adding to cost of material. (It is the total of "1" and "2".)

6—Distribution, manufacturer's or merchant's. (It is the total of "3" and "4".)

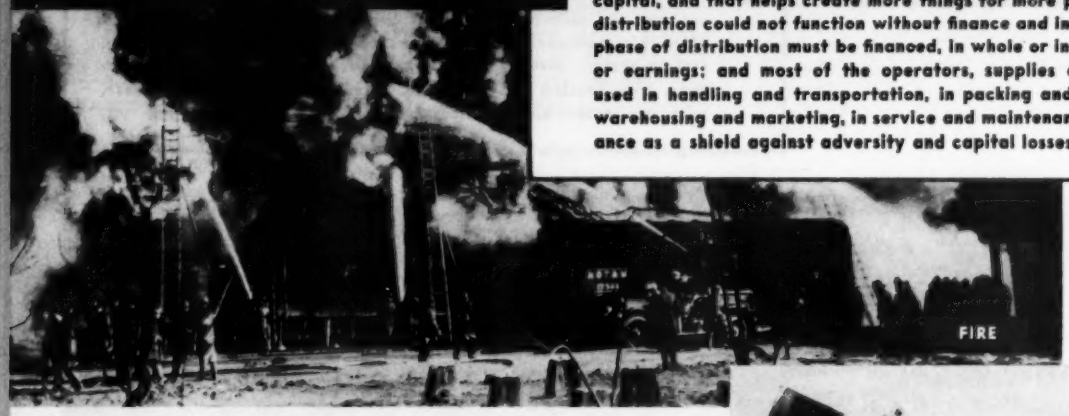
7—Over-all distribution.

•—Indicates the account to which the cost is allocated, when it is obvious as to who pays the cost.

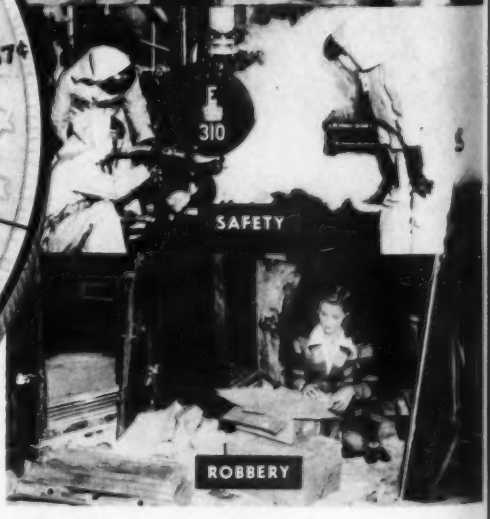
B—Indicates the buyer's account to which the cost is allocated, if the cost is paid by the buyer.

S—Indicates the seller's account to which the cost is allocated, if the cost is paid by the seller.

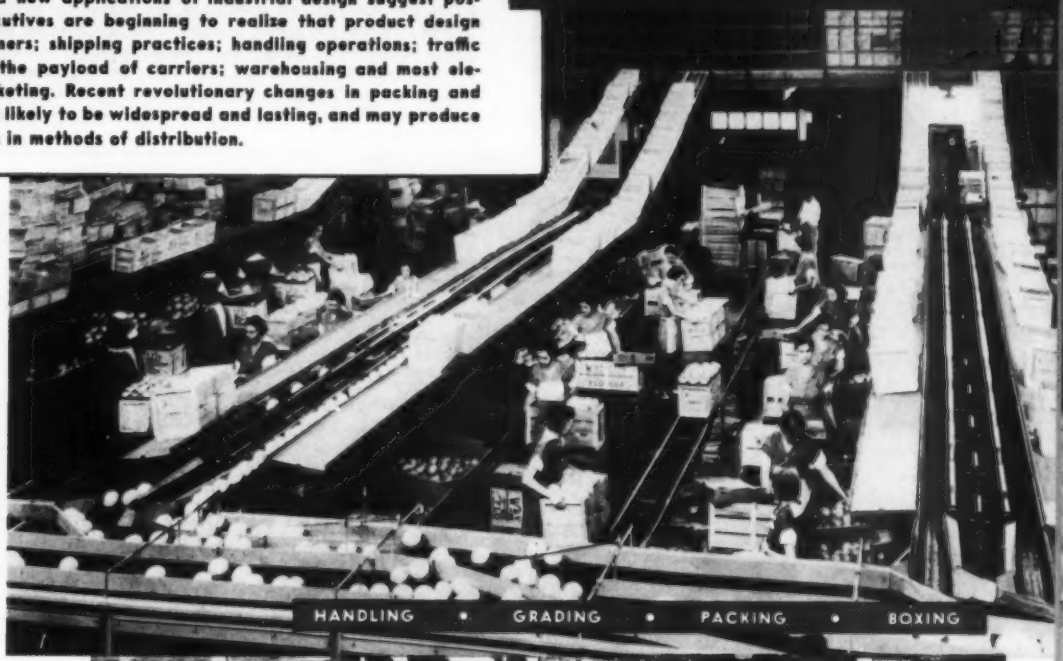
Commodities are collateral for loans; loans lubricate the wheels of commerce, which move goods and services, which, in turn, provide capital, and that helps create more things for more people. Modern distribution could not function without finance and insurance. Every phase of distribution must be financed, in whole or in part, by loans or earnings; and most of the operators, supplies and equipment used in handling and transportation, in packing and packaging, in warehousing and marketing, in service and maintenance, need insurance as a shield against adversity and capital losses.

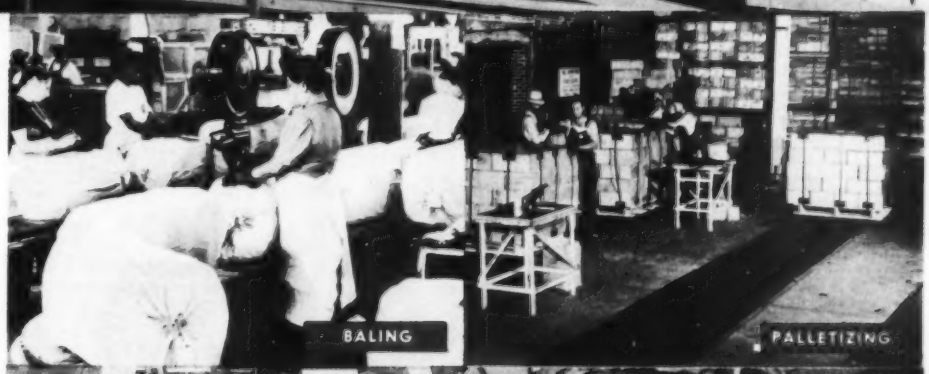


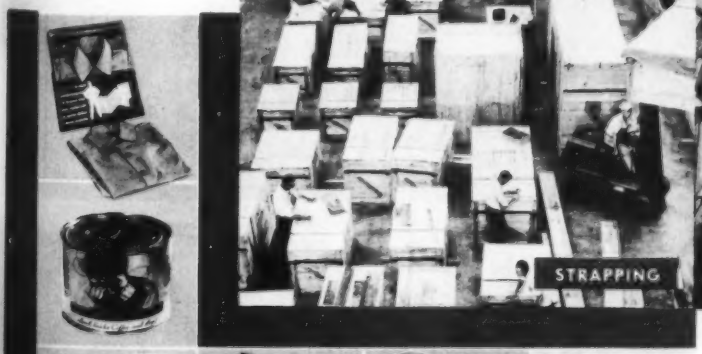
Distribution cost studies will always be difficult to make until financial statistics on specific distribution activities are available. At present, such information is not readily accessible. The graph below, superimposed on the semblance of a silver dollar as a unit of value, illustrates the average proportional cost breakdown for all industries. It makes an impressive picture, but has no value whatever as an analysis of distribution costs. It would have to include costs of handling and transportation, of finance and insurance, of packing and packaging, of warehousing and marketing, of service and maintenance to have any value as an overall distribution cost study. Are there any to-day?

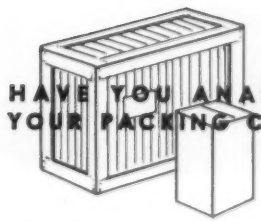


By better integration of the parts, distribution as a whole may be made more efficient and economical. New packing and packaging techniques and new applications of industrial design suggest possibilities. Executives are beginning to realize that product design affects containers; shipping practices; handling operations; traffic management; the payload of carriers; warehousing and most elements of marketing. Recent revolutionary changes in packing and packaging are likely to be widespread and lasting, and may produce major changes in methods of distribution.

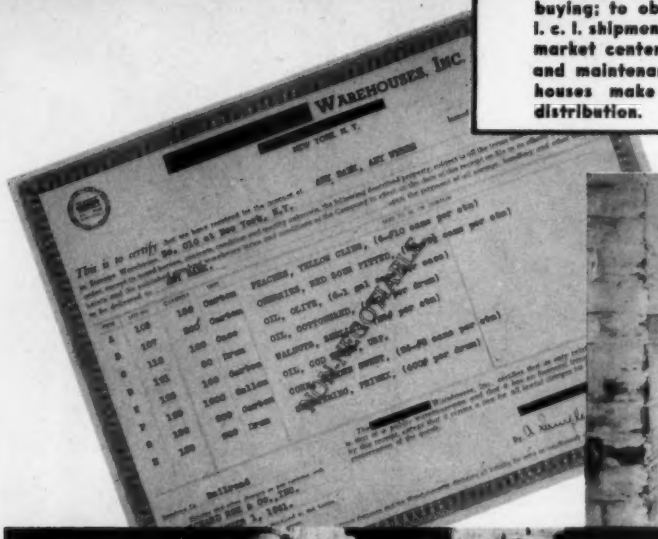


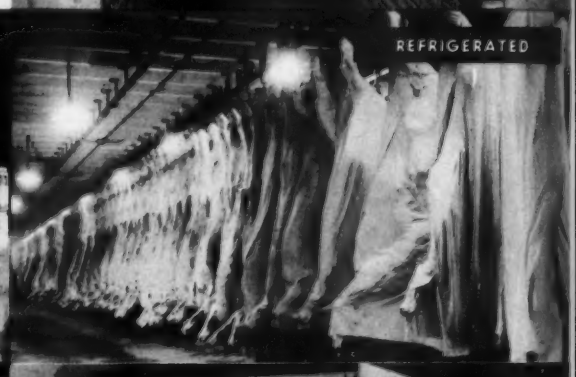


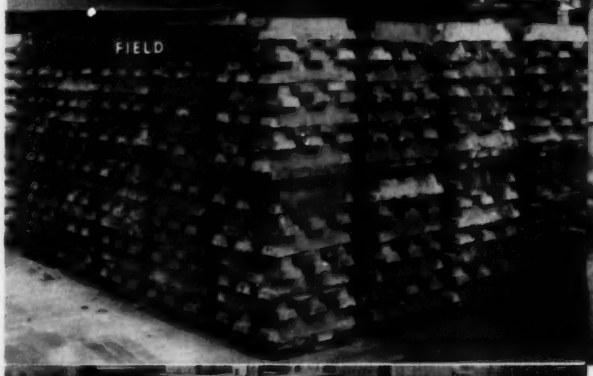




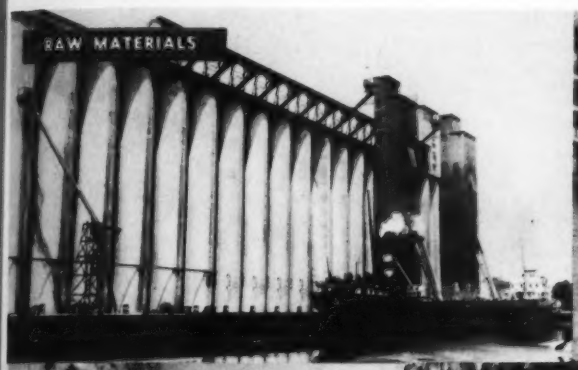
For efficient and economical distribution, intelligent and practical warehousing is necessary. Raw materials, finished products and miscellaneous supplies are placed in storage for any or all of the following reasons: as collateral for loans; to anticipate seasonal buying; to obtain lower freight rates by making bulk rather than l. c. l. shipments; to have spot stocks readily available at important market centers, and as an aid in developing new markets. Service and maintenance furnished by strategically situated public warehouses make possible more flexible and efficient methods of distribution.

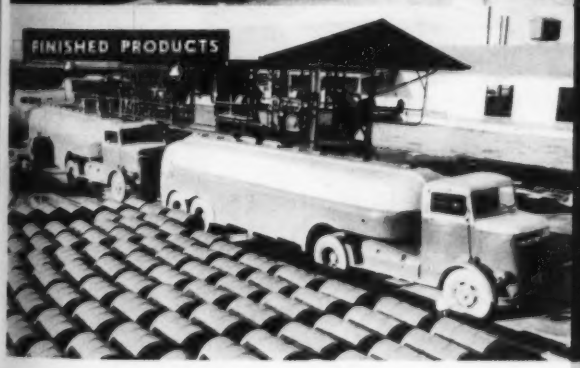


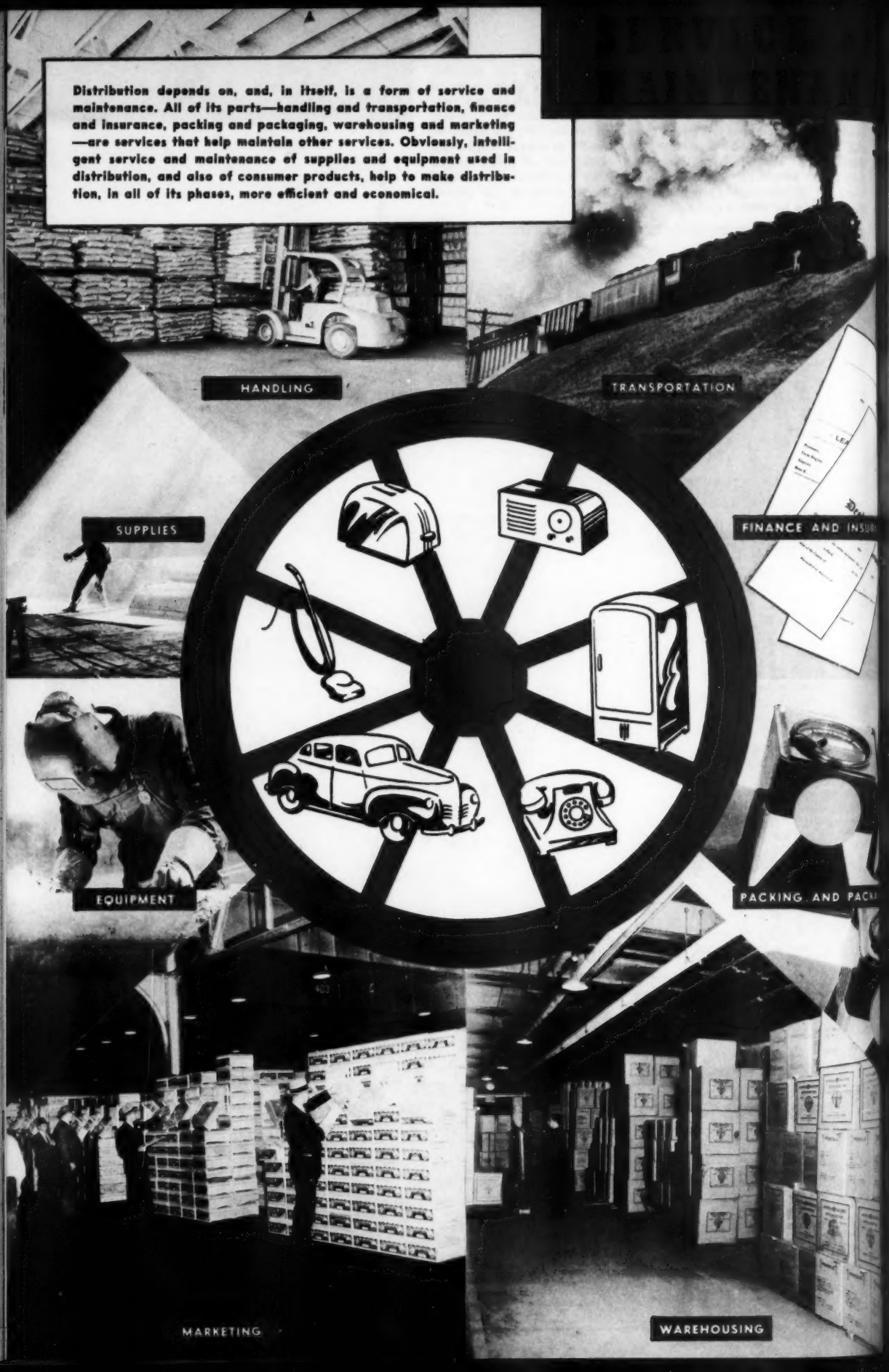




Trading and marketing are synonymous; marketing and distribution are not. Though important, marketing is one phase only of distribution. Goods in transit are not being marketed; they are being distributed. Goods in storage are being held for market; goods being packaged are being prepared for market; the financing and insuring of goods in distribution usually precedes marketing. While goods are not being marketed during any of these stages, they are in process of distribution; for all of the stages are integral parts of distribution as is marketing itself. Without the others, there would be little marketing.






Distribution depends on, and, in itself, is a form of service and maintenance. All of its parts—handling and transportation, finance and insurance, packing and packaging, warehousing and marketing—are services that help maintain other services. Obviously, intelligent service and maintenance of supplies and equipment used in distribution, and also of consumer products, help to make distribution, in all of its phases, more efficient and economical.
HANDLING
TRANSPORTATION
SUPPLIES
FINANCE AND INSUR
EQUIPMENT
PACKING AND PACK
MARKETING
WAREHOUSING

The Invisible Cost Factor

One item which increases the cost of distribution is free service and maintenance. Since the consumer isn't tendered a bill for such service, he doesn't realize that he pays for it in the form of higher distribution costs. If the consumer prices are reduced by government planners, the manufacturer may have to absorb this invisible cost unless he can educate the public.

By EDWARD MERRILL
Special Correspondent

SERVICING of consumer goods increases the cost of distribution. Free service, for periods ranging from one month to five years, or even longer, is offered the consumer with the purchase of an automobile, office appliance, gas refrigerator, coal stoker, electric well, dairy machine, etc. In some cases, the dealer absorbs the cost, in other cases, service expenses are paid by the manufacturer. Sometimes, dealer and manufacturer share the cost. In the final analysis, however, the consumer pays for "free" service, because such service increases the cost of distribution as a whole.

During the war, with cars, home appliances, and other heavy items off the market, many free service guarantees have expired, and the servicing of consumer goods has paid for itself. In fact, some dealers have been kept in business by their service departments. But farm mechanization will increase in the postwar period. Appliance surveys conducted by manufacturers, utilities, wholesalers, and dealers show a great demand for consumer goods has developed during the war. It is estimated that it will take four years to fill the demand for new cars. An abnormal market is in the offing, which makes it imperative for every producer of goods, whether for the home, farm, commercial establishment or factory, to give thought to his postwar servicing problem.

These factors should be considered in future servicing of consumer goods:

1. Keeping records of free service. Manufacturers formerly set up an estimated figure for this expense, but few kept adequate cost records on free service. Now is the time to install a costing system on all elements of distribtion so that each item can be kept under better control. This includes free service and maintenance. Cost records will provide dependable figures for analysis, which will lead to greater economy.

Retailers handling a product should be educated to keep a separate account for free maintenance so that the producer can find out what it costs to service his product. Not one dealer in a hundred has ever isolated this expense on his books.

2. Budgeting service expense. Manufacturers can cut their cost of distribution by giving more thought to the service angle in connection with their products, and by fixing a definite part of each sales dollar for service. They must live within their budget. If the allotted charge begins creeping up, it is time to do a better job of sales promotion to keep the ratio within bounds, or to cut the cost directly by doing away with free service guarantees. This item gets out of control easily Unless accurate costs are kept, and figures analyzed for subsequent guidance; unless a budget is prepared which is based upon experience figures and a forecast of business volume, the manufacturer is almost certain to experience high cost for servicing his products. It has always been so, and a remedy must be found. Revised procedure must be put into operation when new products are available after the war. Otherwise, the business man will fail in his effort to cut distribution costs.

Such manufactured items as farm machinery, automobiles, office appliances, and home appliances may prove prohibitively expensive to service unless producers adopt proper costing methods.

3. Training service mechanics. There is a big shortage of repairmen and servicing units in all fields. Today, there are 22 percent fewer repair shops, and 47 per cent fewer mechanics for the maintenance of civilian goods than at the time of Pearl Harbor. Some mechanics are at war, and some are in war plants. Many may not return to their peace time vocation. It is up to manufacturers to train men now to service their products after the war. They can start with demobilized soldiers and those out of employment because of cutbacks on war orders. Dealers need training, too. It will pay to extend training to dealer outlets. Such training is already under way in some fields, but not on a large enough scale to obtain maximum results.

4. Educating the consumer. During the war, conservation was taught successfully by some companies. The White Motor Co. sold truck owners on truck conservation. The result was to keep down

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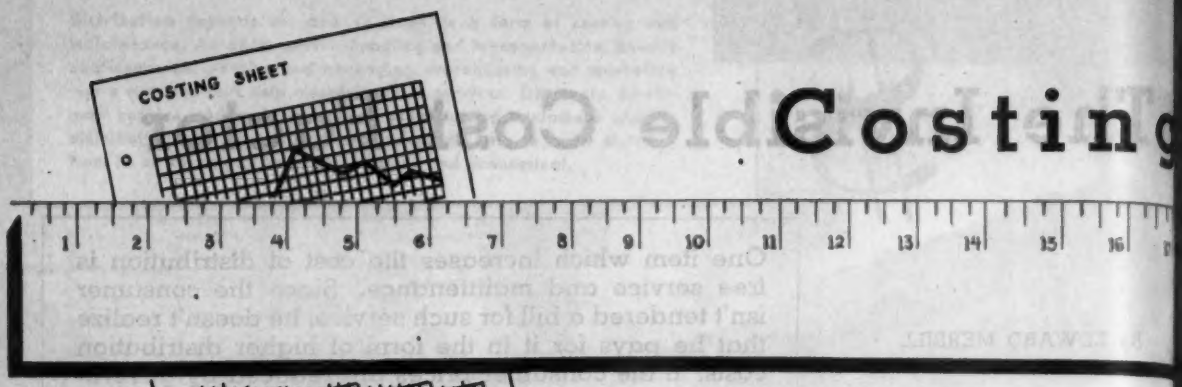
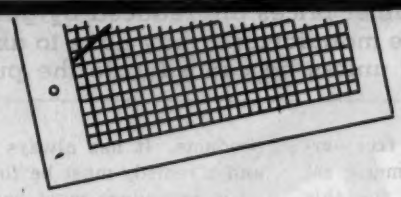


Costing



By FRED MERISH

Special Correspondent

IN THE May issue of this paper, we pointed out that distribution cost consists of two basic classifications, internal and external. The former is controllable by management because it pays this cost, and therefore, can control it. External cost, for the most part, is uncontrollable by management. After a shipment has passed out of a producer's control to the next link in the distributive chain, the management of that link takes control of the distribution cost until the shipment goes to the next link, and so on, until the commodity reaches the final user or consumer.

Internal distributive cost may be classified in two ways:

1. As handling cost. This includes all steps involving physical distribution from production termination to and through finished storage or warehousing, packaging and shipping preparations, and transportation, if the company pays the freight.

2. As marketing cost. This includes moneys expended by the shipper or producer to promote and market his wares to the user or consumer or to the next link in the distributive chain.

This article, will confine itself to a consideration of handling costs.

Let us take a hypothetical case. A management uses handling equipment to take finished production to finished storage. As orders are received, the product is delivered to the shipping room. There it is packed and sent by other handling units to a loading platform, where a company truck awaits the shipment for delivery to carrier terminal. The shipper pays transportation charges to a company warehouse in a distant city, from which warehouse orders are sent to customers within that market area. Transportation charges therein are paid by the customer.

Handling Routine

The management decides to install a system for costing handling from production termination to customer. It makes no difference whether the customer is a jobber, retailer or consumer, the various steps in the handling routine may be outlined in this manner:

TABLE I

1. Handling from finished production to finished storage.
2. Finished storage maintains stock for customer demand.
3. Handling from finished storage to shipping room.
4. Shipping room maintains staff to package, stencil and deliver to handling units to take to loading platform.
5. Company trucks deliver to carrier terminal.
6. Transportation charges paid by company, including traffic service, insurance, claims, etc.
7. Warehousing cost at distant point where company stores goods to service customers in the territory.
8. Transportation charges there are paid by customers but are of concern to the shipper in the overall concept of distribution.

This is the type of outline to set up before installing a system to cost handling. There is no set formula. It depends upon your operations. Handling operations differ with the industry and the plant. Obviously, handling in a steel mill differs from handling in a meat packing plant. A plant using hand labor will differ from one using materials handling equipment.

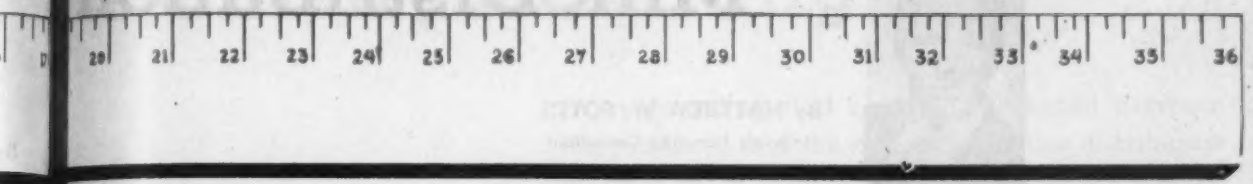
Costing routine must mirror the main steps in the handling routine and should be prepared after a careful study of handling operations, because if the costing outline does not reflect operations, or if every minor movement is considered a separate step, the cost work will be hard to analyze or be too complicated.

Major Processes

In general, do not try to cost minor handling steps, only major movements or processes. Keep the system simple. This is a prime requisite of all costing. Incidentally, the cost accounting methods used in costing handling are the same as those used in costing production. The procedures given in this article require that the principles of standard cost accounting practice be applied.

In analyzing the eight steps under Table 1, you will note that they consist of four main processes:

Handling...



"Costing distribution in all of its phases must start at home, not in the other guy's organization, and it must be a cooperative job among all executives engaged in the work of handling shipments and marketing them."

TABLE 2

1. **Load movement from point-to-point.**
2. **Storage of goods.**
3. **Shipment preparation.**
4. **Transportation.**

Usually, handling costs will break down into these basic processes, consequently, a form of process costing as used in production is effective. However, you may cost each step under Table 1, but this will create more paper work and, in many plants, may prove unworkable or too expensive. The advantage of costing in line with your handling steps is that you can isolate irregularities to a rather limited area. The big disadvantage is that handling routine overlaps steps and you must cost or pro-rate for this inter-step movement, an involved procedure that seldom assures costing accuracy and often necessitates a lot of estimating as to just how much cost should be charged to each step.

Like Job Costing

Costing step by step is akin to job costing in a factory. This can be done best where the mechanical movement is fixed so that machine and labor on the operation can be timed and standardized. There is a big difference between a fixed machine and a moving unit that may take a load through production to finished storage and then to the shipping room. Coordination is the big thing in handling and this involves some sort of straight-line production procedure, eliminating re-handling as much as possible.

It is hard to cost the exact proportion of handling expense which should be charged to distribution activities and which should be charged to production, or the cost that should be charged in the distributive area to one step or the other. If there is no overlapping from production to distributive area, or from step to step, if the handling units, powered trucks, conveyors, etc., and the manpower controlling them, are used exclusively in the distributive area or on one step only, obviously, it is possible to cost with greater precision.

Hard to Cost

For the reasons given, handling movement is the hardest of the four processes to cost (See Table 2). Storage and shipping preparation involves little overlapping of movement between one distributive step and the other because a shipping department is usually a unit in itself aside from storage, and if connected with storage or production, the equipment, men and space used in each department usually operate as a unit. If these departments are in the same building, production, storage and shipping, the standard costing procedure for pro-rating space and other common-denominator factors, such as light and power from the same meter, readily establishes the cost to be charged to each distributive process.

"If distributive process costing does not give step-by-step costs, how do I know just where economies can be effected if my costs begin to increase?" This question may come to the reader's mind. It would apply only to load movement from point-to-point in the distributive area. If you costed load movement in two without breaking it up in steps in accordance with your handling routine, such as movement from finished production to finished storage, movement from storage to shipping room, movement from shipping room to loading platform, you would not know which of these steps was responsible for the increase in costs or whether they were all to blame. But you can get around this. If load movement cost is increasing, make a survey, prepare time studies, confer with executives in the various departments involved. Often the eye will disclose the reasons for irregularities, such as bottle-necks, too much re-handling, etc.

Transportation

Costing transportation, the fourth distributive process cited herein, comprises company trucking and much has been written about this. Truck operating forms are common cost-finding records in the distributive field. If you cost

(*Continued on page* 64)

Milk Distribution

By MATTHEW W. POTTS
Materials Handling Consultant

MATERIALS handling has a definite place in the overall cost of distribution. Few of us realize the number of operations and the number of handlings that are required to produce and distribute the foods we eat and the clothes we wear.

We could take almost any commodity and make a flow chart that would be of interest to most readers. Flow charts can be simple or detailed. To show the steps from raw materials A to the consumer B we are taking the product milk as an example.

In order to handle this product, safely and efficiently, distribution from A to B should be as short and as fast as possible. The best and simplest distribution occurs when the farmer squirts the milk from the teat of the cow into the cat's mouth, or from producer to consumer in one handling.

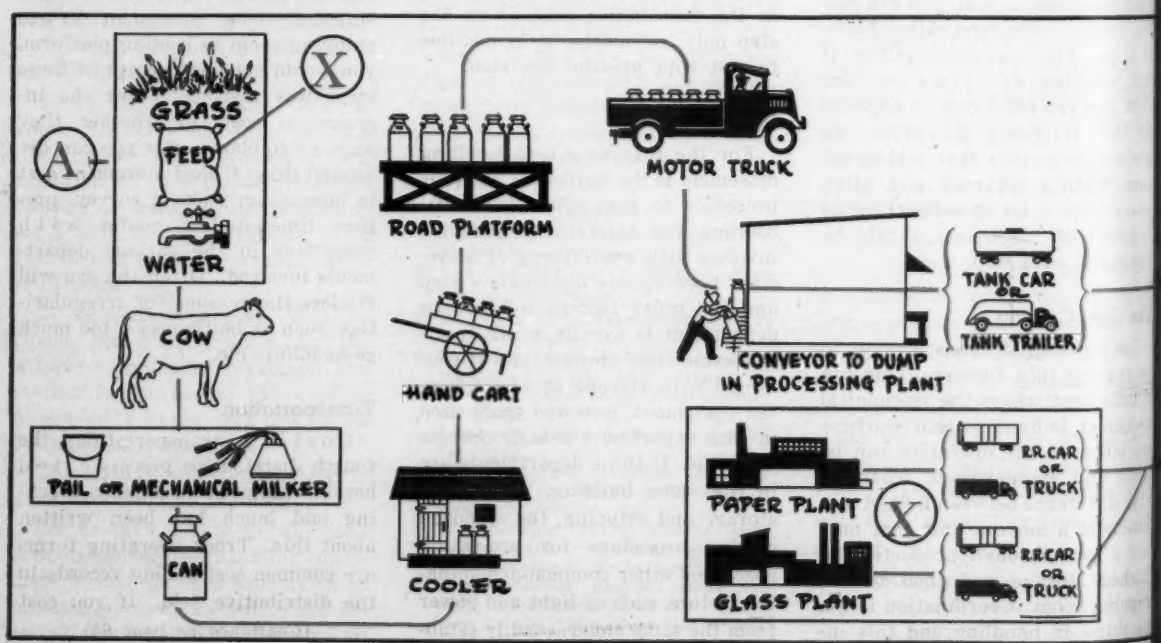
However, the distribution of milk today, through its various processing is not simple. There is need of shortening the steps in distribution, and it is necessary to eliminate as many handlings as possible. The accompanying flow chart shows only a few of the major handlings, and does not go into detail regarding individual handlings of cans and other containers, or the transfer from rail to truck.

Description of Chart

We have marked three points on the chart with an X. These points indicate that further distribution has taken place before the product reached the stage at which it appears on this chart.

Starting at Point A, we find that milk originates from three basic raw materials: grass, feed and water, plus a production machine (the cow). These four elements can be brought together in a small production unit or a large production unit. It happens that the production machine can be moved to some of its raw material such as grass and water, but prepared feed is a raw material and has to be distributed before it reaches the milk production machine.

However, as a result of combining grass, feed and water, as raw material, and processing it through the cow, milk is produced, and another line of distribution is required.



is Chiefly Handling

Every handling that can be eliminated between the producer and the consumer in the distribution of milk, is of vital importance to every family.

If we could always pass the raw material directly from producer to consumer, we would not have a distribution or a handling problem. But when milk is prepared for human consumption on a large scale, the distribution system can become quite complicated.

Large and Small Units

It will be found that milk is produced, the same as other materials, both in large and small production units, and each one has its own distribution problem. The large unit can eliminate certain handlings that cannot be eliminated by the smaller unit. If the production unit consists of a number of cows, and is adjacent to a processing plant, then quantity production permits the use of mechanical equipment, thereby reducing the production cost. In such an installation, the cows can be milked mechanically, the milk can be weighed automatically, can travel by pipe line to coolers, and go through the processing operations, directly to tank car or trailer with a minimum amount of manual handling. It is mostly machine processing. This gives a large producer an immediate saving on the cost of producing the milk and delivering it for transportation to the city distribution plant.

In the case of a small milk producer with only a few cows, the overhead investment is not so large for mechanical equipment but the number of manual handlings required consume man hours. Auxiliary equipment required for handling and transportation from the production machine (the cow) to the processing plant makes for a large capital investment almost as great as the large producer's efficient mechanical unit, and, thereby, increases the distribution cost from the production machine (the cow) to the processing plant because of the man hours consumed in handling and processing in smaller quantities.

Handling Operations

Let us consider a few of the handling operations in the smaller production units. In the first place, if hand milking is required or mechanical milkers are used, they are on a small scale. The milk

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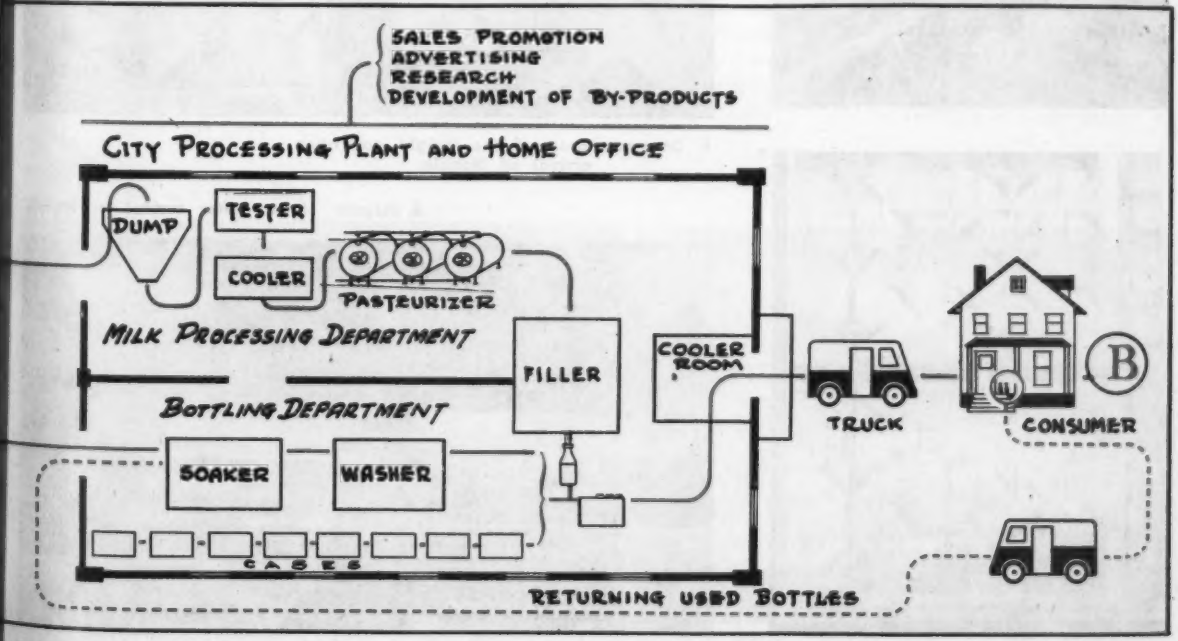
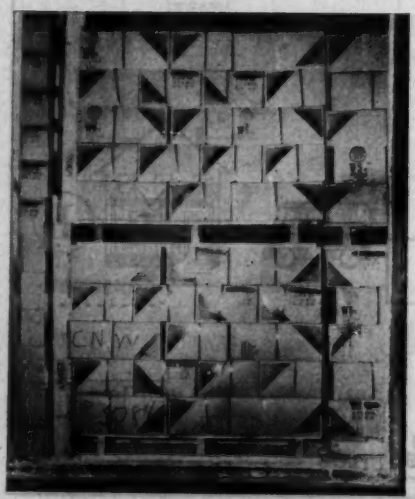


1. The materials to be palletized in the car are usually received on conveyors or dollies.

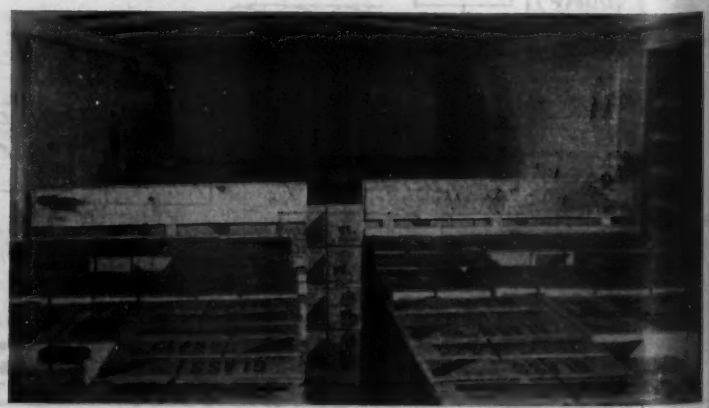
2. Prior to being placed on pallets, the cartons pass over a glue pan.

3. One end of a unit-loaded freight car.

4. Doorway area of the freight car after arrival at Norfolk.



5. Interior of car after arrival at Norfolk.



Unit Loads

Since it is not feasible to strap pallet loads in freight cars, and since loose palletized shipments are often unsatisfactory, a method of forming unit loads with glue has been developed to fill a serious gap in the navy materials handling program.

THE magnitude and scope of World War II has required the mechanization of components of our war machine. Planes, ships, armored divisions move rapidly and strike the enemy simultaneously over widespread areas. This mechanization is confined not only to front line military operations but extends to all echelons of supply. Through the media of modern mechanized materials handling equipment, such as fork trucks, tractor-trailers, mobile cranes, etc., and the unit load principle, the Bureau of Supplies and Accounts, Navy Department has been able to meet the increasing demands for speedy delivery of vital war goods.

Manual handling of materials, item by item or case by case, would be incompatible with the urgent demands on our overburdened supply lines. Therefore, wherever possible, navy material is handled on pallets by mechanical equipment.

Obviously the benefits of palletization increase in direct ratio with the number of handlings which an item or unit load must undergo. Consequently, it has been the aim of the Bureau of Supplies and Accounts to initiate palletized loading at source, which is usually at navy contractors' plants. Wherever possible, pallet loads have been strapped at contractors' plants for rail and overseas shipment. As it has been necessary to strap pallet loads for overseas shipment, the receipt at navy supply depots of strapped loads considerably reduces the work load through man hours savings in freight car unloading, and expedites movement of strapped loads to shipside.

Mechanized Equipment

However, at the majority of contractors' plants, no materials handling equipment is available which can handle navy pallets in the plant or in carloading operations. Inasmuch as many provision items are of a seasonal nature so that the plants carload only during certain portions of the year, and navy contracts are often one-time contracts, it is not feasible to furnish these contractors with mechanized equipment, the supply of which is extremely limited.

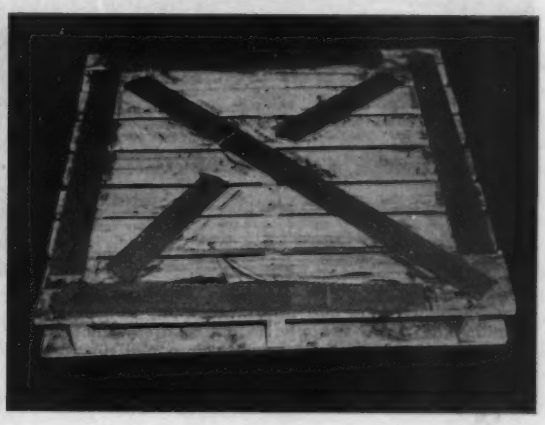
Thus, it is the practice of a majority of navy contractors to place the material on pallets in freight cars. The arrival condition of loose palletized cars at supply depots is not always satisfactory. Carelessness causes the shifting of the material on the pallets in transit, frequently results in fore and aft and athwarthships interlocking, honeycombing, and jamming of the cases in the doorway area. These conditions present numerous difficulties in mechanical unloading and frequently require the reforming of pallet stows.

Since it is not feasible to strap pallet loads in freight cars and since loose palletized shipments are often unsatisfactory, a method of forming unit loads with glue has been developed to fill a serious gap in the navy materials handling program.

(*Continued on page* 69)

6. Glued unit loads stowed in 'tween decks hold of a cargo ship.

7. Wood boxes can be glue loaded by applying glue to strips of chipboard.



Hold Tight!

Since the hooks on the bottom of the jig slide in and out, they will lock around the side stringers of all standard navy pallets.

Firm locking of the jig prevents the bottom layer of tanks from being pushed out of place when upper layers are added. Here the jig is being fitted.

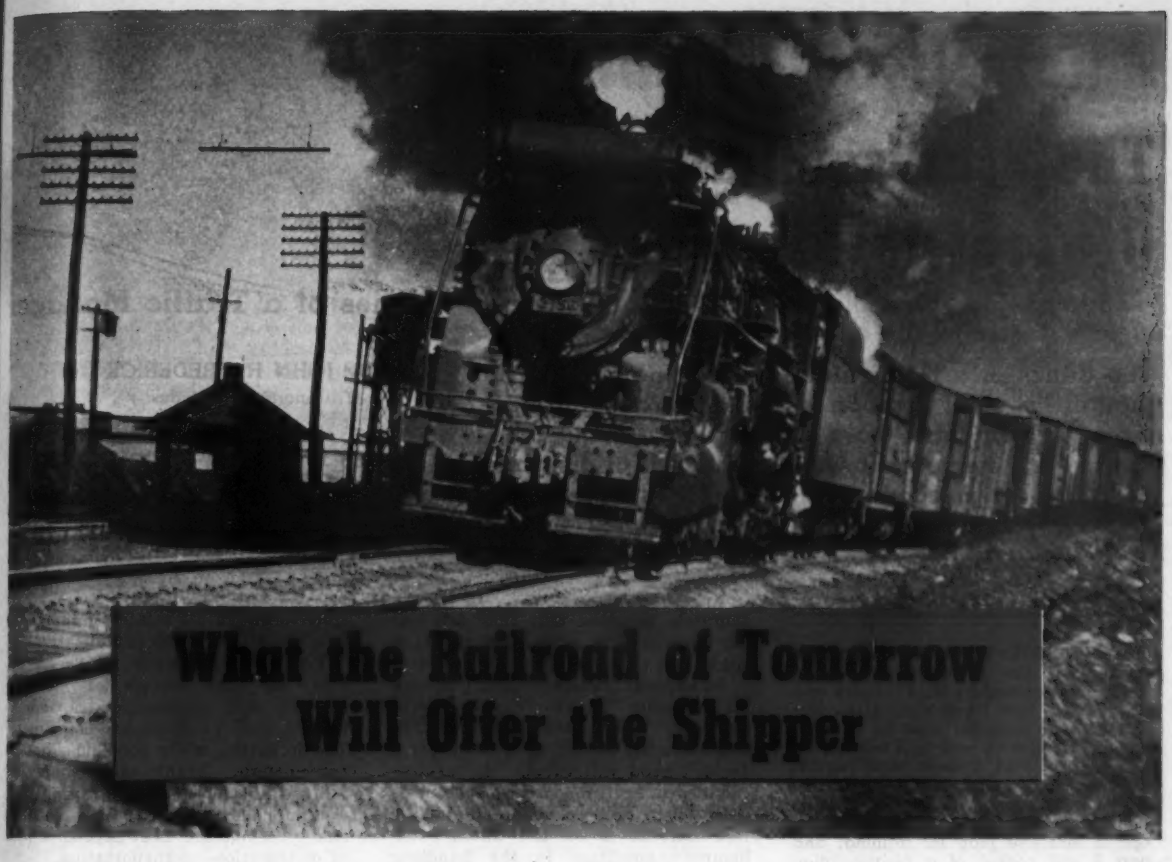
The completed load can be moved away from a production line to be strapped in a free area, since the jig is locked onto the load rather than held in place by cumbersome weights or floor fastening. At right: Removable in a matter of seconds, the jig can be rolled to a new location on its casters.

A NEW jig developed under the direction of the Naval Ordnance Materials Handling Laboratory, Hingham, Mass., greatly facilitates palletization of cylindrical objects in a horizontal position.

Adjustable to any normal size or shape of unit load, the light, portable jig, shown in the illustrations, was developed specifically for use in the palletization of ammunition in tanks. It is, however, valuable with any cylindrical objects which palletize to best advantage in a horizontal position. Unit loads arranged in this manner require support on the sides both when they are being put together and when they are taken apart, to keep the cylinders from rolling out of place.

The equipment eliminates the need for expensive, specially designed fixtures, yet provides the firm, even support so necessary in the formation of dependable unit loads of cylinders. Because it locks onto the pallet and not to the floor, cylinders can be palletized at the end of a production line and the unit load moved out of the way to be strapped.

The upright portion of the jig is considerably narrower than any of the pallets with which it will be used. As a result the jig does not get in the way of the workers who are constructing the unit load, either when they are putting cylinders on the pallet or strapping them together. Most cylindrical objects can be strapped most satisfactorily near their ends, where they are naturally strongest.



What the Railroad of Tomorrow Will Offer the Shipper

By JOEL KEITH
Associate Editor

o o o

TRANSPORTATION was probably the original factor in distribution. Through the ages, mankind refined and improved the process of moving goods from producer to consumer through the development of such phases as packaging, materials handling, warehousing, and marketing. Despite these new developments, transportation remains the fundamental, and perhaps the most indispensable step in distribution.

In the American system of transportation, railroads have played the most important role for more than a century. With their supremacy threatened for the first time by the advent of the air cargo plane and the motor carrier, the railroads are making energetic plans to improve equipment and service for the shipper in the postwar era.

DISTRIBUTION AGE presents this picture of the railroad of tomorrow with the hope that it will aid all who are interested in distribution with the formulation of their postwar transportation plans.

TRACK: The track of the future will be made of better and tougher steel. It will have fewer joints, and those it does have will be more rigid. It will be stronger track with less curvature and with lighter grades. It will be safer track, and will cost less to maintain per ton mile of freight passing over it. This improved track will make possible higher speeds and heavier trains.

FREIGHT CARS: Cars will be made of lighter weight, high tensile metals, not so much for the purpose of increasing the speed of trains as of decreasing their dead weight, so that a given unit of power may perform a greater amount of transportation service. These cars will have improved draft gears and improved trucks to absorb and dissipate shock to fragile materials. They will have improved brakes to permit smoother handling.

POWER: The locomotive of tomorrow will be powered in various ways, depending on needs in particular situations. There will be extensions of central station electrification on lines of very heavy traffic. There will be a greatly accelerated use of Diesel power in freight service and switching. There may be steam turbine or gas turbine locomotives, and it is conceivable that there may be locomotives using the power of atomic explosion. Nor will the steam engine stand still while other forms of power are progressing. In horsepower per axle, per lb. of fuel, and especially in performance ability at high speeds, the steam engine promises much for the future.

OPERATIONS: Operating methods, efficiency and safety will advance with improved plant. Gravity yards, equipped with centrally controlled switching and with car re-

(*Continued on page* 85)

The Professionalization Of Traffic Management

Part 3—Duties of a Traffic Manager

The duties of a traffic manager are manifold. Although his chief function is to make transportation more efficient and more economical, he must be thoroughly conversant with all phases of distribution, and must cooperate at all times with other department supervisors.

By JOHN H. FREDERICK
Transportation & Industry Professor

and WILLIAM J. BREWER
Research Assistant, Transportation, School of Business Administration, University of Texas

EDITOR'S NOTE: This is the third of six articles on the professionalization of traffic management by Dr. Frederick and Mr. Brewer. Part 1 emphasized the fact that a traffic manager must be a distribution specialist as well as a transportation expert. Part 2 dealt with regulatory legislation affecting the traffic manager. Part 4 will discuss professional training for traffic men; part 5 will present a tentative plan for training; and part 6 will consist of a recapitulation and prediction of probabilities.

TRANSPORTATION is literally hedged around by laws, both economic and legislative. Consequently, expert knowledge is needed to cope successfully with every contingency that may arise. Thus it is easily seen why manufacturers, commercial firms and carriers of all types retain men with the knowledge and experience to plan, watch and maintain their traffic interest. Industrialists were probably the last fully to recognize the importance of skilled traffic management, and even now it is possible to find, in industry, instances where an indifferent attitude prevails.

The value of expert supervision of all phases of business cannot be denied, yet there are still manufacturers and others who stubbornly refuse to put their traffic affairs in the hands of an expert. These same people would be indignant at the suggestion that they might as well delegate their bookkeeping to the office boy, and their sales direction to a laborer. There is usually but one sure method of convincing these people of the value of traffic management. Though they may not want to listen while told how money can be saved, they give all their attention if it is definitely asserted that they are losing money. The actual distinction is slight, but the sound is much different.

An efficient traffic manager will save his company his yearly salary over and over again, but in addition to this economic aspect, he usually has a decided good will value. He inspires confidence in transportation agencies with whom he does business, and the fact that he is on the watch often insures expedition in the handling both of incoming and outgoing shipments, and a hundred and one incidental benefits that otherwise might not accrue.

Traffic Duties

Obtaining equitable rates; thrashing out classification snags; selecting containers and packages; supervising packing, dispatching, shipping practices, and siding operations; receiving inward traffic; preventing demurrage; handling storage accounts, claims, rebates, customs and excise formalities, spot-stock distribution, and interworks transport—these are a few of the activities directly controlled by a traffic manager. From these it is possible to gauge his relative importance to a modern business organization.

Traffic management has been defined as "the science of securing efficient and economical transportation between producer and consumer." The definition, while good, does not go far enough. Traffic management is really the science of "restricting to a minimum cost that factor which can easily become the most expensive part of distribution—transportation.

Only recently have manufacturers, trade associations, etc., fully realized the relationship between transportation charges and profits. They have seen the economies brought about by skillful traffic management, and so have accorded it a place in their deliberations. Some concerns, however, still hesitate to admit the necessity for a traffic manager, doubtless thinking that their success constitutes sufficient commendation of their methods. They evidently lose sight of the fact that they succeed, probably, not because of their methods, but in spite of them.

It is now firmly established that

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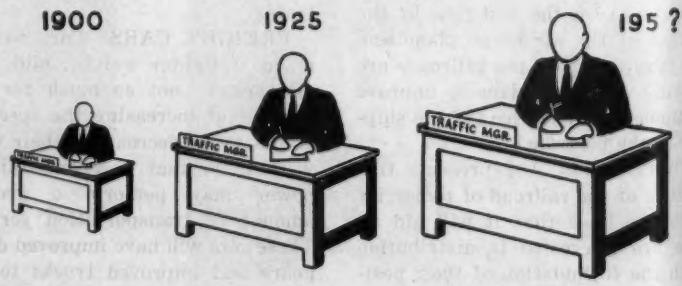


The Class Rate Decision

No. 2—Uniformity of Classification

Many shippers face tremendous adjustments in relation to distribution as a result of the recent decision by the Interstate Commerce Commission on class rates. This will become more and more evident as time passes. Every shipper, especially those in the eastern section of the country, will be advised to give the matter serious attention.

By HENRY G. ELWELL
Traffic Consultant

and HARRY S. ELKINS
Attorney at Law

o o o

WHY are railroad rates so complicated? Why should not a tariff be so simply framed that a layman may ascertain a rate? Why do not railroads take a few lessons in salesmanship, learn how to describe their services, and name their prices clearly? These questions, or others like them, have been asked many times. One tariff may refer to another, and still another, and each may be amended by numerous supplements, each of which must be examined. A shipper, unacquainted with the technique, is soon hopelessly lost. In such cases, he usually asks the railroad agent for a quotation, and takes his word for it.

Although a shipper may not be able to locate the rate, and receives different quotations from the railroads, nevertheless, he must know the correct rate. The Supreme Court has said that a shipper is presumed to know the legal rate. Even though a railroad has misquoted a rate, and a shipper has relied upon it, he must pay that which is found to be the legal rate. It seems unjust that the railroads should hand a shipper a puzzle and expect him to find the correct answer or take the consequences. Yet the rule was framed for the protection of the shipping public. It requires tariffs to be filed with the Commission, and the rate to be contained in them. At one time railroads had one rate for the big shipper and another for the little shipper. Many dubious practices were ended, when the filing of rates with the Commission was required, and a certain stability was assured by regulations prohibiting changes at will.

Why So Complicated?

But why should tariffs be so complicated? Why should they not be simple? Obviously, since the law placed upon the shipper the burden of knowing what the rate is, the railroads should be required to maintain clear and easily understood tariffs. But railroad rate structure is the result of thousands of adjustments and negotiations, and it may not be changed without seriously affecting intricate competitive relationships. The need for improvement has long been recognized. Progress has been made slowly. Radical changes have been resisted both by shippers and the railroads. Many shippers are in favor of simplicity of tariffs provided the changes necessary do not require an increase or change adverse to them. Other shippers and state commissions believe that existing rate patterns are harmful and retard progress.

The recent Classification Case[1] decided by the Commission is the first step in the direction of planned and ordered rate making. The Commission points out, however, that its orders do not affect rates which move the greater body of traffic, but it also records that what it intends to accomplish will serve as a plan for the reconstruction of all rates. Its order is a foundation stone in the rebuilding of a pattern for the country. In the past existing rates have been regarded as standards until shown otherwise, and the burden has been upon those attacking them to show that circumstances require change. Now the Commission would create standards. There will be a tendency to protect those standards. In the future the burden may be upon the shipper or the railroads to show why rates, all rates, should not conform to the plan. However, it is not the purpose of this article to discuss all the possible effects of the Commission's decision. We shall confine ourselves to one phase only of decision, namely, uniformity of classification.

EDITOR'S NOTE: This article considers Part 1 of the Interstate Commerce Commission's recent revolutionary decision on class rates. The first article last month outlined and reviewed the decision as a whole. Succeeding articles will analyze Parts 2 and 3 of the decision.

The authors have had many years of practical experience in traffic work. Mr. Elwell is traffic manager for a number of manufacturers and other shippers. He is a practitioner before the ICC and the U. S. Maritime Commission.

Mr. Elkins has a law practice in Washington, D. C., is traffic attorney for the National Petroleum Assn., and editor of "Digests of Rates by Pipeline." He has been an attorney before the ICC since 1919. Before that, he was employed by the Commission.

Classification

A classification tariff contains descriptions of all articles shipped and their ratings; also the minimum and estimated weights, packing requirements and other conditions which may apply. It is a basic tariff, since it relates to all articles transported. Since it is a tariff common to all railroads, publication of one rating for all articles for all railroads in the territory east of the Rockies will be a long step toward uniformity. Eventually, John Q. Public will not find it so difficult to understand tariffs. In its recent decision, the Commission said in effect to the railroads, if you do not agree to provide a uniform classification in the states east of the Rocky Mountains, or on or before Aug. 30, 1945, we will provide one for you, and require you to publish it.

In such a classification all commodities will be divided into groups or classes having related transportation characteristics. To one of these classes a first class rating will be assigned, and percentage relationships to that rating, either above or below it, assigned to all other groups. A shipper may select the classification tariff, locate the description of the

[1] Throughout this article we refer to: ICC No. 28300 Class Rate Investigation 1939. ICC No. 28310 Consolidated Freight Classification. Decided May 15, 1945.

TABLE 1

Percentage Comparison of Traffic Moved, Intraterritorial and Interterritorial, On Class Rates, Exception Rates and Commodity Rates.

Territories (Within, or from one to another)	Class Rates	Exception Rates	Commodity Rates
Official	5.8%	17.9%	78.7%
Southern	1.8	6.0	92.2
Western trunk-line	0.6	0.2	99.2
Southwestern	2.4	4.4	93.2
Official to Southern	12.6	36.3	51.1
Southern to Official	0.9	4.9	94.2
Official to Western trunk-line	12.3	35.4	52.3
Western trunk-line to Official	3.1	1.0	95.1
Official to Southwestern	22.5	52.0	25.5
Southwestern to Official	1.5	3.4	95.0

(Extracted from table appearing on mimeographed Sheet 293 of Docket No. 28300 and 28310.)

article to be shipped, next the rating assigned, and then the schedule in which the rate is contained. But do not be misled. This is not true if the carrier in another tariff has taken the article out of the classification by making an exception to it, or if it has published a specific or commodity rate. These are the rates which the Commission said were not affected by its order. They are the rates which it hopes may be brought into conformity with the standards prescribed in this decision. The classification is only the first bite. Insofar, however, as that tariff is concerned, the plan is simple and something which should have been accomplished a long time ago. How did all the confusion come about?

Old as Railroads

Classification tariffs are probably as old as the railroads. Actually they were in existence long before the railroads. Faced with the necessity of preparing schedules of rates for a large number of commodities, it is probable that the early railroad managers placed in groups, commodities having similar transportation characteristics, such as bulk, weight per cubic foot and value, and assigned different ratings to the various groups. But all did not create the same number of groups. One carrier would assign a commodity to one group; another carrier would assign it to another group. As the railroads grew, joined with others and interchanged freight for movement over two or more lines, the classification tariff of one of the carriers sometimes was adopted as controlling by all the railroads participating.

In arranging for joint transportation by two or more lines, the stronger roads tended to dictate the terms of the arrangements. Thus, the classifications of the stronger roads became dominant throughout a region. But there were so many classifications and so many variations in their application, that shippers had difficulty in determining rates. This lack of certainty, and changes of rates by railroads to gain business, or to favor certain shippers, perhaps without notice to the public, were causes for the agitation which led to the enactment of the Interstate Commerce Act. That Act was motivated by a demand that interstate rates and rules of railroads be clearly stated in tariffs, which could be changed only in the manner prescribed by the Act.

There was a multiplicity of varying classifications in 1887 when the Commission began to function. In the recent report, it is stated that in that year (1887) individual railroads had two or more classifications: one for traffic confined to its line in one direction, another for traffic in the opposite direction, and still others for traffic destined to or from points on lines of other railroads, conditioned on the direction of the movement. In 1883 for traffic originating on its line, one railroad had nine different classifications of freight.

But the railroads seem to have been aware of the need for reducing the number of classification tariffs and for greater certainty in the application of freight rates. In its first annual report (1887), after condemning this multiplicity, the Commission proceeds to commend "the work of the railroads in reducing the great number of classifications then in effect," which was characterized as "extremely important and useful." But the movement toward uniformity which "seemed to give promise for the establishment of a single classification for the entire country" appears to have died by the wayside; for in 1891, in its fifth annual report, the Commission records "the failure of the carriers to adopt the uniform classification proposed by their committee in 1890." The Commission then recommended to Congress the passage of an act "requiring the adoption within one year from the date of its passage of a uniform classification of freight by the carriers subject to the act." The recommendation was repeated in subsequent annual reports, but was never adopted by Congress.

Special Situations

Nevertheless, some progress had been made. There were classifications in official (eastern), southern and western territories which were generally observed by the railroads on transportation within those territories. But extraordinary situations resulted with respect to transportation from one region to another. On transportation from points in western territory, as far west as Utah, to

(*Continued on page* 72)

TABLE 2

Ratings and Rates Compared

(Rates as in effect Aug. 3, 1942)

Rates in cents per 100 lb. for 200 mi.

Classification and Territory

CLASS	OFFICIAL		SOUTHERN		WESTERN	
	No. of Ratings	Rate	No. of Ratings	Rate	No. of Ratings	Rate
100—1st class	213	80	199	112	202	97
85—2d class	766	68	575	95	587	82
70—3d class	1433	56	1328	78	1381	68
60—4th class (1)	1185	40	93	56	57	49
35—5th class (2)	2700	28	380	39	3	34
27½—6th class (3) (4)	877	22	16	31	....	..

(1) 4th class in Southern equals 55 percent; number of ratings, 809.
4th class in Western equals 55 percent; number of ratings, 995.
Figures in rating column represents ratings at percentages stated of First Class.

(2) 5th class in Southern equals 45 percent; number of ratings, 190.
5th class in Western equals 37½ percent; number of ratings, 2115.
Figures in rating column represents ratings at percentages stated of First Class.

(3) 6th class in Southern equals 40 percent; number of ratings, 35.

(4) 6th class in Western compares with Class C or 30 percent; number of ratings, 243.

(Extracted from mimeographed sheet 21 and Appendix 3 of Docket Nos. 28300 and 28310.)

The Merchant Marine and the Shipper

By FRANK J. TAYLOR, *President, American Merchant Marine Institute*

In the competitive era after the war, there will be an increasing need of placing goods of all kinds within the purchasing reach of people everywhere. We have acquired knowledge in handling operations and technical procedures during this war which give promise of new achievements in peacetime transport of goods of all types in world trade.

NUMEROUS reasons have been advanced in support of an American merchant marine. Most of them have dealt with the need of vessels of American registry on the main routes of trade as a matter of national policy and to supplement other measures of defense.

There are vital factors also involved in an American merchant marine from the viewpoint of the individual shipper. What the Navy and Army represent in the way of national insurance, the merchant marine affords somewhat similarly with regard to the export and import trade of our people.

Commercial attaches in the main trade centers of the world tend to encourage commerce. American steamship lines that link remote areas of the world with the United States, need spokesmen located abroad who are able to present not only the advantages of their respective transportation services to prospective shippers, but who, because of American background, are able to point to American sources for products. This information can be most important in connection with industrial projects that may be planned abroad and in which American products can be used.

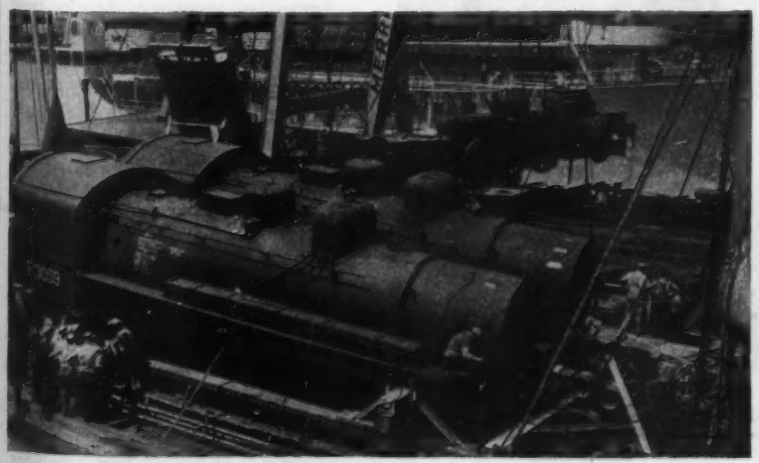
Few will be as industrious as these "ambassadors" of American steamship companies in stimulating demand for products of United States origin in the countries where they are stationed. That is a form of cooperation highly attractive from the viewpoint of exporters in the United States.

But this aid is not limited to trade moving to other countries. Two-way commerce symbolized in the Reciprocal Trade Act has a definite meaning to the representative abroad for an American steamship company. It is even more important to him than it is to the average exporter for goods of other nations to be transported to the United States. He is under a compulsion to find goods in the country where he is stationed and which may be sold and used here. He realizes that such imports of foreign goods create dollars with which to pay for our exports.

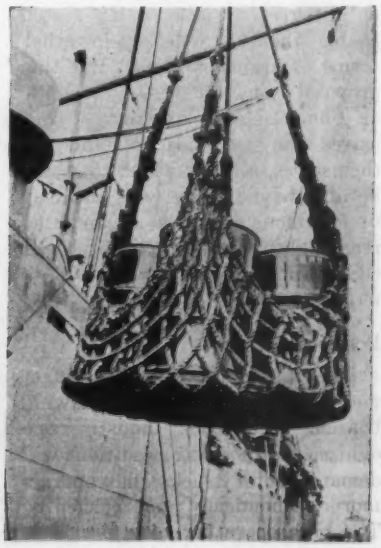
There is still another reason that tends to double the efforts of the shipping executive to find outlets for exports of American goods.

(*Continued on page* 61)

Liberty ships' deck loads include everything conceivable including tugboats and locomotives. *WSA Photo.*



Cargo sling is used to transfer drums of oil at East Coast port. *U.S.M.C. Photo*



Better Trucks Mean Better Distribution

Competition, improved highways, less restrictive legislation, better automotive equipment and widespread use of mechanical handling devices are in the cards and certain to prove a potent force in postwar distribution.

By GEORGE T. HOOK
Editor,
Commercial Car Journal

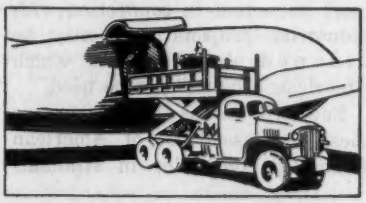
THERE is every indication that in the postwar period motor transportation will make a major contribution to more efficient distribution. Such factors as competition, improved highways, less restrictive legislation, better automotive equipment and widespread use of mechanical handling devices are in the cards and certain to prove a potent force.

Competition is the yeast of progress. Whatever the railroads, the waterways and the airlines do will get a rise out of motor transport. And those transportation services, to judge by reports, plan an active campaign for the shipper's dough. The railroads would like to minimize the competition by means of an integration plan which would enable them to engage in other forms of transportation. But this proposal is not likely to get public or Congressional approval. That leaves the railroads to fend for themselves, a thing which they will be able to do nicely with the help of enormous reserves accumulated from a glut of wartime traffic. Their competition will be a stimulant to motor transport.

Postwar Trucks

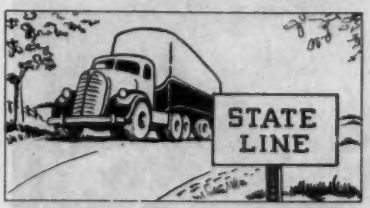
The stimulant will take effect right at the engineering drawing boards. The truck industry recognizes that postwar conditions will demand motor trucks that operate more economically and efficiently. The high operating costs prevalent throughout the war period are expected to remain on the books for some time to come. The postwar motor truck must help operators make ends meet and leave a little over as a profit. This will be accomplished in a variety of ways.

"... postwar trucks will operate over better highways."



"... truck to plane transfer will be improved."

"... all sorts of mechanical devices will come into use at terminals."



"... removal of highway barriers means more efficient and economical distribution."

Postwar trucks will have a much improved power to payload ratio; there will be less deadweight because of lighter metals. Engines will take advantage of better gasolines that will be available, and provide increased power for the movement of greater loads or the speedier movement of today's loads. Engineering developments will make vehicles last longer, operate with fewer failures and provide even more dependable service than at present.

Better Highways

Improved postwar trucks will operate over improved postwar highways. Billions, appropriated by Congress and matched by states, will be poured into new highways. Traffic delays in and near cities will be reduced by means of better planned highways. Between the larger centers of population will stretch express highways over which trucks will be able to travel at greater speeds with less tear and wear. They will enable a given truck to do more work in a given time and provide shippers with faster service.

Before the war there was a trend toward special truck bodies for

special purposes. Much along this line may be expected in the postwar period.

Airlines will be dependent on trucks to do their hauling to and from airports. Arrangements will have to be made for the speedy transfer of entire truckloads from truck to plane and vice versa in order to cut down ground time and help airlines preserve their sole advantage of speed. The development of demountable bodies for trucks and trailers will get a shot in the arm.

Less Handling Time

The high cost of labor may compel truck operators to resort to mechanical handling devices in order to get more work done with the same or fewer men. Elevating tailgates will be more widely used to expedite loading and unloading of trucks and trailers. All sorts of mechanical devices will come into general use around the terminals of truck operators. They will reduce handling time at terminals, speed the loading and unloading of vehicles and decidedly expedite service to shippers.

It is quite certain that shippers will make their own contribution to improved motor transport service. With trucks compelled to show greater productivity in the more competitive era ahead, there will be a demand for a reduction in the wasteful waiting time that plagues truck operators in their relations with many shippers. The time consumed in waiting to drop a load or to pick one up is a profit killer and will not be tolerated by operators who are under pressure to make a profit, as most of them will be. There will be organized attempts to get shipper cooperation. Shippers undoubtedly will cooperate and find it to their advantage to do so. In the construction of new shipping platforms they will provide better facilities for motor trucks and install their own mechanical handling devices to speed loading and unloading.

Highway Restrictions

But all the efforts of the truck industry, of truck operators and of shippers to improve motor transport service can be nullified by unfavorable motor vehicle legislation. Restrictions on the size and weight of motor vehicles were serious before the war. To further the war effort considerable temporary relief was provided by offending States, and during the past legislative year this temporary relief has been made permanent.

Today, commercial motor vehicles are less restricted, but the industry has need of public understanding if motor vehicles are to provide the maximum benefits of which they are capable. The industry will continue to seek more generous sizes and weights wherever they appear to be necessary. In these moves shippers will be helping themselves if they will join hands with truck operators in getting public acceptance and legislative approval of the changes.

At present the only practical plan by which tractor-trailer operators in inter-state commerce can be certain to avoid legal complications is to adopt the lowest weight unit with the shortest allowable length. This arrangement, obviously, is impractical for economy in transportation of necessary commodities in various states.

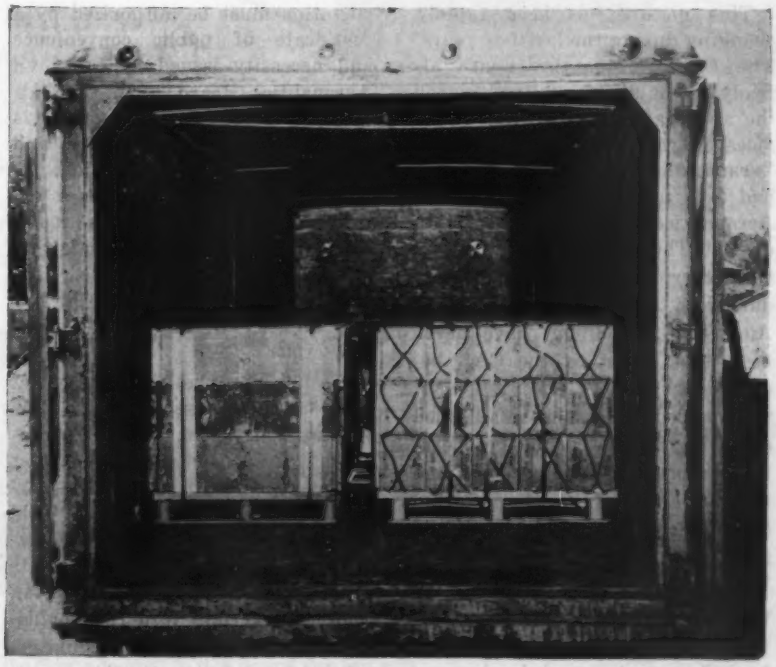
Practical Usage

According to extensive experiments and practical usage for general and all-purpose transportation, the width of the motor vehicle over dual tires, may be 102 in.; height. 13½ ft.; length, single vehicle, 35 ft.; tractor-semi-trailer, 45 ft., and all other combinations, 64 ft. The axle loads on balloon tires for efficient results can be a maximum of 19,000 lb.

Certainly, business everywhere will benefit by standardization or codification of state laws regulating the lengths and weights of trucks and trailers.

Moreover, if distribution is to be made more efficient and economical constructive action to relieve highway transportation of the many inequitable and costly statutes now in force is desirable and necessary.

Efficient Loading



Eight-way entry makes a major contribution to truck-loading by permitting rectangular pallets to be placed whichever way they will fit best. Two pallets abreast the wide way would not go into this van, while two the narrow way would waste space.

Non-Scheduled Air Transport

PART 2
The Problem of Regulation

By JOHN H. FREDERICK, Air Cargo Consultant

AMONG the many things that the war has done for air transportation is this: it has completely broken down the previously accepted classification of airplane operation under which it was easy to separate the airline and its activities from the so-called "fixed base operator." The airline rendered common-carrier scheduled air transportation. The others flew charter trips, and rendered other special services usually close to their home bases. All the services of the "fixed base operators" were of a distinctly non-scheduled nature.

Changing Picture

This picture has been rapidly changing during the last few years. The Civil Aeronautics Board already has on file 87 applications for the approval of non-scheduled services. Twenty-nine of these are "grandfather applications" which had been filed soon after the Civil Aeronautics Act of 1938 went into effect. They are based on operations carried on by the applicants during the period from May 14 to August 24, 1938, but have never been acted upon by the CAB because two months after the Act was passed, an order was issued exempting non-scheduled operations from the requirements and regulations governing the granting of certificates of convenience and necessity.

It was thought, at the time when this exemption was put into effect, that it was done in order not to retard the operation and development of non-scheduled services during the time that the Board's attention was directed to the matters created by the many applications and problems presented by the airline. For the same reason, the Board has not yet acted on the many so-called "new route" non-scheduled applications filed more recently.

No Distinction Made

The Civil Aeronautics Act of 1938, which still controls the civil aviation activities of the United States, defines air transportation as "the carriage by aircraft of persons or property as a common carrier in interstate commerce for compensation or hire, or the carriage of mail by aircraft." Further, the Act states that "all air transportation must be authorized by a certificate of public convenience and necessity issued by the Civil Aeronautics Board." In this latter provision, no distinction is made between non-scheduled and scheduled air transportation, so non-scheduled common carrier operations by aircraft have really been subject to the economic and safety regulations of the CAB since Aug. 24, 1938, when the law was signed by the late President Roosevelt.

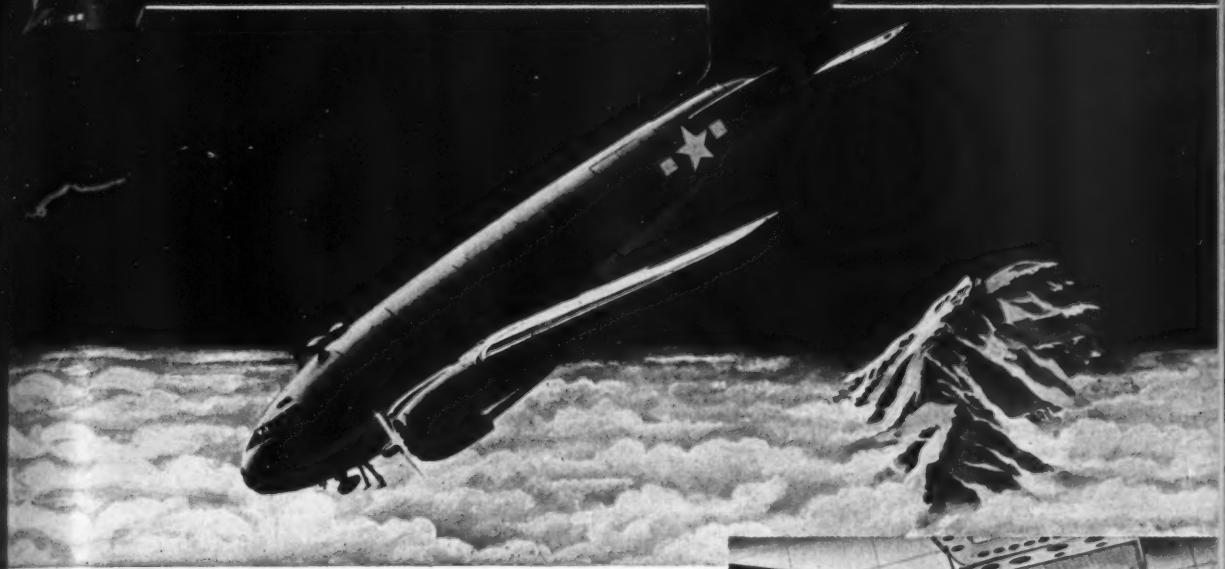
An important omission in the Act of 1938 has become apparent. This is that it does not apply to operations carried out under contract between the shipper and the carrier when the latter does not hold itself out to transport for the general public. At least two attempts have recently been made to bring contract carriers into the regulatory fold; with economic regulation of this type of operation being proposed in both the Lea and McCarran bills in Congress.

Non-scheduled air transportation, therefore, has been one of the most unregulated types of transportation. Just so long as an operator did not hold out to the public by advertisement or otherwise that it would operate one or more airplanes between any designated points regularly or with a reasonable degree of regularity, and that it would accept for transportation, for compensation or hire, such members of the public as might apply therefor, or such express or other cargo as the public might offer, he was considered as a non-scheduled operator. Thus, an operator might, for example, make contracts with several firms to carry their cargo and if he did not make his services available to the general public, he could operate between any points in the United States without CAB interference, as long as its safety requirements were met. Had more planes been available during the last few years many operations would have done just this, but lack of equipment kept their numbers down.

Classification Needed

An operation that attracted considerable attention in 1944 was that of the Roscoe Turner Aeronautical Corp. which, for a short time, operated what was termed a "non-scheduled" service between Memphis and Detroit was one round trip daily and stopping at seven intermediate points. Service was started on a centractual basis. Passengers and cargo were taken on and let off at the intermediate points along the route, most of which did not have airline cargo

"When a GIANT CARGO PLANE outdives a Jap Zero... THAT'S NEWS!"



"Armed only with my trusty typewriter, I was headed *over the Hump* from India to China to get on-the-spot news. Every time I looked at that 19,000-foot rockpile, I couldn't help thinking, 'Is this trip necessary?' But when they loaded us into a Curtiss Commando, I felt better. That really is a great airplane. I've seen Commandos carry 6 x 6 trucks, bomber engines, and hordes of Chinese troops. And they made it, through weather that even grounded the birds. But here's the pay-off. One of those unarmed Commandos actually *outdove a Jap Zero!* With the Nip on its tail, that big ship went into a 405-mile-an-hour power dive, and beat that fast fighter to a cloud bank in the nick of time. Believe me, when a giant transport can *take* a high-speed dive like that... *that's news!*"

THAT'S WHY
I WANT TO RIDE
THE AIRLINES THAT
Fly Commando!

MOSCRIP MILLER
War Correspondent in the China-Burma-India theater

When Freshness Is a Must... Ship Commando! It's a must for extra speed, for the Commando is faster than any airliner today. And a must for extra cargo space... 526 cubic feet of it, with the temperatures controlled to prevent freezing. So, perishables arrive at their destination "air-fresh" —and even better—"Commando-fresh!"

Materiel of War rides today in the stripped cabin of the Curtiss Commando. Ambulances, jeeps and tanks are all frequent passengers. Postwar, this same cabin provides luxury never before experienced in air travel. And its two huge holds carry a greater load ...3¼ tons of luggage and air express.

Less Time En Route. Merchandise that Flies Commando spends less time at flight stops because of the ship's unusual accessibility. For example, the cowl is designed so that several men can work on the engines at once without getting in each other's way. Loading is quicker, too. So, precious minutes are saved, when you Ship Commando!

THE CURTISS
Commando
Today's Great Lifeliner
Tomorrow's Great Airliner

CURTISS
WRIGHT
FIRST IN FLIGHT

or passenger facilities at that time. Various complaints were registered with the CAB that this service over-stepped the bounds of "non-scheduled" and was really a common carrier scheduled service. The Board began an investigation but the service was suspended before any ruling was made.

This situation illustrated the need for classification of what non-scheduled service and contract service really is in air transportation and though the CAB denied that it was the occasion for opening up the whole subject, an announcement was made early in 1945 that a general survey or investigation of non-scheduled air transportation both of cargo and persons would be undertaken.

The Board pointed out that the development of the nation's air transportation system had by now reached a point where non-scheduled operators were entitled to have their rights and privileges more clearly defined and through their investigation it was hoped that all interested persons would avail themselves of the opportunity to contribute their accumulated experience so that it might be utilized in determining the nature and extent of any necessary regulations; as well as in planning any future development of non-scheduled air transportation that might appear warranted.

Goodyear Announces Aluminum Foil Package

Utilizing aluminum foil and a film with a plastic base, a new packaging material for the moisture protection of airplane engines and replacement parts has been developed, announced The Goodyear Tire & Rubber Co. recently.

In the search by the army air forces for a moistureproof, heat-sealing material for the packaging of airplane engines, a lamination of aluminum foil and Goodyear Vitafilm was found to give excellent results.

The new film, designated as Metalam No. 140, will release about 70,000 pounds per month of natural rubber required previously for Pliofilm. Heretofore, Pliofilm was used exclusively for the protective packaging of airplane engines and replacement parts while in transit or in storage.

March Inquiry

A formal hearing was held by the CAB in Washington late in March, inquiry being made along the following lines:

(1) The extent to which there may be a general need for non-scheduled services. (2) The type or types of operation best adapted to the performance of the transportation service required to meet such a need. (3) The facilities (airport, airways, aircraft, etc.) best adapted to the types or type of operations which appear most desirable or feasible. (4) The extent to which such facilities are or may become available. (5) The conditions which generally should be regarded as sufficient to justify the authorization of non-scheduled operations. (6) The extent to which non-scheduled operations should be grouped or classified separately from other operations. (7) The extent to which carriers conducting non-scheduled operations should be grouped or classified separately from other carriers. (8) What if any basis or bases exist, and appear appropriate or warranted, for general application in classifying operations or carriers. (9) The extent to which non-scheduled operations should be subjected to restrictions to prevent uneconomic operations or uneconomic competition, and the nature of such restrictions. (10) Problems relating to the coordination of any different types or classes of operation. (11) The extent to which existing requirements of law or regulation, or their application to such operations, can or should be modified.

Even though about a hundred parties had previous indicated that they would take part in the CAB hearing comparatively few statements were made except by the airlines or their representatives. The airlines, naturally, were in favor of economic regulation of non-scheduled flying. The non-scheduled operators, what few had anything to say, or were represented, were against economic regulation. Arguments for and against were about even in force and so the problem was left squarely in the lap of the Board. The hearing in Washington really didn't develop anything new but it did strengthen the feeling, previously held by a number of people on both sides of the argument, that air transportation may learn a good deal, at least

(*Continued on page* 81)

Beulah Flies To Town

The cow that jumped over the moon hasn't anything on Beulah, eight-week-old calf, and daughter of Borden's famed Elsie. Beulah enjoyed her first airplane trip recently when she was flown from Princeton to Teterboro, N. J. The air cargo station wagon of Manhattan Storage and Warehouse Co. took Beulah from the airport to the Hotel Pennsylvania, New York, for a packaging forum of the aviation section, New York Board of Trade.

Postwar Terminal Operation

Modernization of long-neglected terminal facilities is vital to successful postwar distribution. Obsolete terminal architecture and inadequate equipment result in costly double handling. Today, an average of 40 percent of a carrier's revenue is expended on terminal costs.

By L. W. BYRNE

Assistant Director
Department of Port Development
Port of New York Authority

Freight is loaded directly from railroad cars into the hold of a steamship.

NO phase of transportation is causing traffic executives so much concern as that of terminal operations. For the last 20 years terminal costs have increased, until now 35 to 50 per cent of carriers' revenue is being spent for this purpose.

It is rather curious that while transportation companies, particularly water carriers, have spent considerable time, money, and effort to improve the efficiency of their vessels, relatively little has been done to modernize terminals and to increase the efficiency of freight handling operations.

The inadequacies of present methods with respect to postwar conditions is bringing the subject into sharper focus. Operators of all types of transportation services, warehouses, and even manufacturers concerned with costs of distribution, are engaged in an intensive study of the subject. Needless to say, the solution is not an easy or a simple one. The type of transportation, whether air, highway, water, or rail, the nature and volume of traffic to be moved, and other major factors all have an important bearing on the problem.

The railroads intend to spend millions of dollars in postwar rehabilitation and improvement of freight terminals and services. Undoubtedly, the use of mechanical equipment and appliances for handling and transfer of freight to and from railroad cars will be given major consideration.

Double Handling

In New York and other ports where much export-import rail freight is picked up or delivered by water, consideration might well be given to the greater use of carfloats in place of lighters and barges. For instance, it is the present practice of rail carriers to unload export freight from cars at New Jersey rail-heads, and place it on covered or open lighters to be towed to shipside for delivery. This method results in double handling of freight, both at rail-head and shipside. Double costs are absorbed by the railroads. The average loading of these barges or lighters seldom exceeds 100 tons, or the equivalent of three or four carloads.

Although there are certain technical difficulties to be overcome, it is not beyond the range of possibility that a three or four car platform float, comparable in dimensions with present lighters, could be designed to carry the loaded cars direct to shipside. At that point, cars could be broken open and freight transferred via the float platform directly into the ship's hold, or onto the ocean carrier's terminal. If this could be accomplished, it would eliminate the present transfer handling cost at New Jersey rail-heads. As a matter of fact, during peak periods of activity in New York harbor when

Trucks wait to gain access to Hudson River piers to make pick-ups or deliveries.

tremendous volumes of war emergency freight and military supplies had to be delivered to ocean carriers, this method was resorted to time and again, and regular types of pier station or platform floats were used in this manner. The volume of freight delivered to steamships by carfloats has been considerable.

For the purpose of moving carloads of freight to and from shipside, present carfloat equipment is entirely too large, and has a tendency to congest terminal slips and impede other operations. However, in view of war time experiences, railroad operating executives might well consider the use of small carfloat units for shipside traffic.

With the expansion in the movement of air cargo, the question of terminal service and type of operation will have to be answered by many airlines. It will be interesting to study the development of the air carriers' transfer operations and observe how they solve their terminal problems. With the experience of competitive forms of transportation to guide them, and assuming the installation and use of facilities and equipment of modern design, the airlines have an opportunity to develop freight handling efficiency to a degree unequaled by other types of carriers.

Improved Methods

With respect to trucks, a number of long distance highway carriers throughout the country have already modernized their facilities and improved the efficiency of their terminal operations. Perhaps one of the most outstanding examples is that of Pacific Freight Lines, Los Angeles, which installed a conveyor system for mechanical transfer of freight between trucks on opposite sides of the terminal platform. This installation practically eliminated hand trucking of the freight, and resulted in an increase in efficiency and in a corresponding reduction in handling costs.

No group is as much concerned with the high cost of terminal operations as are the water lines serving our ports in domestic and foreign trade. While war is a curse to humanity, there can be no doubt that the experiments and the improved methods initiated and used by the armed services at terminals and ports for handling cargo have proved their value and efficiency.

EDITOR'S NOTE: L. W. Byrne has been associated with port development in New York for more than 20 years and has first-hand knowledge of port administration, shipping, and terminal operations.

After Pearl Harbor, he gave a series of lectures at New York University on "Terminal Administration and Operations," which was initiated and sponsored by the War Shipping Administration for the benefit of army, navy and steamship personnel. He also lectures on related subjects at the Naval Officers Training School, Navy Supply Depot, Bayonne, N. J.

It is true that relatively little attention is given by the armed services to costs, but it cannot be denied that a remarkably high level of efficiency has been attained in the handling and transfer of military traffic at army and navy terminals. This greater efficiency must have resulted in lower overall terminal costs, regardless of increased labor charges. The accomplishments of the armed services should have a stimulating effect on steamship terminal operators when peace comes.

Carriers of domestic water-borne traffic after the war will be in sharp competition with rail and truck services. Some prewar lines, with high operating costs and depressed revenues resulting from competitive rates, are seriously questioning the desirability of resuming coastwise service. If they do resume business, and hope to continue on a sound economic basis, they will be compelled to cut the ratio of their terminal costs to an absolute minimum.

Unified Facilities

At a time when unification of terminal service is receiving so much attention from trucking interests and the railroads, it may be practical for water carriers to consider unification of their terminal operations. There is much to be said in favor of unified facilities and operations. Certainly, at those ports having more than one coastwise service, a unified facility operated for the benefit of all domestic water carriers would offer a great opportunity for economy and efficiency in the handling of freight.

Ocean carriers in foreign service are faced with their own special problems, but their position is not so critical as that of the domestic water lines. However, shipping lines on the Atlantic coast have started to plan for the day when they can resume regular commercial service. Many of them are studying their terminal operating costs with the hope of holding expenditures in check.

Whether or not the maximum in operating efficiency is achieved depends largely upon the architectural design of the terminal. Steamship companies seldom own their terminals. The facility is usually leased to the steamship company or occupied on a berthage or similar basis. Efficiency in handling and transfer of cargo is frequently handicapped by a poorly designed or outmoded terminal. This condition is beyond the control of the steamship line. The problem of what to do with an inadequate or inefficiently designed terminal is not a simple one. The cost of a steamship terminal may range from a million to several million dollars, and the scrapping of any part of this investment is a matter of serious concern.

Piers Inadequate

It is an indisputable fact that many of the steamship piers in our major ports are too narrow for present day operations. Not only are they restricted in area, but they have other defects. Frequently, supporting posts for the shed roof are located directly down the center length of the terminal in a manner which handicaps delivery of trucked freight. The slips between piers are not wide enough in many instances to permit free movement of present day lighterage traffic. In the construction of new terminals, the question of shed area and slip width should be given serious thought.

Highway trucks will be used in the future even more than in prewar days. Steamship terminals were already experiencing difficulty

(*Continued on page* 61)

COST FACTORS IN DISTRIBUTION

When management understands that transportation costs are as diversified as factory, advertising and sales costs; when it realizes that operation and transportation costs are closely interwoven; when it takes decisive action to find out how its transportation costs are made up; then, and not until then, will it obtain reductions in transportation costs as astonishing as those which have been made in operating and manufacturing.

By HENRY G. ELWELL
Traffic Consultant

"The cost of distribution must be reduced in the postwar period."
"The cost of distribution . . . deserves study by all business men and cost accountants."

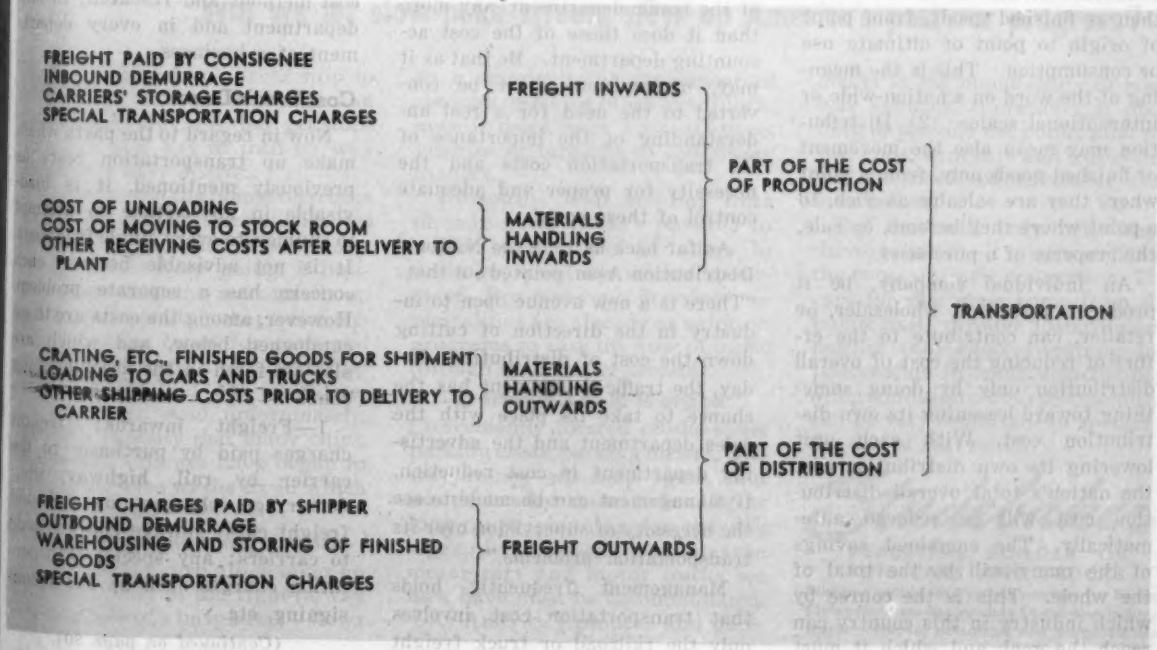
THE quoted statements are taken from letters written to us in reference to this series of articles concerning cost factors in distribution. One is from the president of an industrial engineering company. The other is from the president of a bank.

Here we have the views of two men whose activities at first glance appear to be divergent, while on second thought one perceives that their interests are parallel.

Industrial engineers are concerned with bringing about increased efficiency in industry at lower cost. Bankers are interested in the same objective inasmuch as greater efficiency and reduced costs mean safer risks when loans are granted.

If bankers and industrial engineers are giving serious thought to the need of pruning the cost of distribution it should be evident that management itself ought to concentrate on this most pressing subject. Yet, far too many in the field of management are continuing to place most of the emphasis on manufacturing, with scant attention to distribution costs.

We are alluding particularly to studies pertaining to postwar plans. No one will deny that with wartime exigencies being what they are, pro-


FREIGHT PAID BY CONSIGNEE
INBOUND DEMURRAGE
CARRIERS' STORAGE CHARGES
SPECIAL TRANSPORTATION CHARGES
FREIGHT INWARDS
COST OF UNLOADING
COST OF MOVING TO STOCK ROOM
OTHER RECEIVING COSTS AFTER DELIVERY TO PLANT
MATERIALS HANDLING INWARDS
PART OF THE COST OF PRODUCTION
TRANSPORTATION
CRATING, ETC., FINISHED GOODS FOR SHIPMENT
LOADING TO CARS AND TRUCKS
OTHER SHIPPING COSTS PRIOR TO DELIVERY TO CARRIER
MATERIALS HANDLING OUTWARDS
FREIGHT CHARGES PAID BY SHIPPER
OUTBOUND DEMURRAGE
WAREHOUSING AND STORING OF FINISHED GOODS
SPECIAL TRANSPORTATION CHARGES
FREIGHT OUTWARDS
PART OF THE COST OF DISTRIBUTION

duction is of primary importance. But what of the period following the war?

As to competition, in the language of the street urchin, "We'se ain't seed nuttin'," to compare with the rivalries which will follow this war. Not only will manufacturers be competing in domestic markets, but a far greater struggle will ensue for a place in world marts. Despite the fact that the manufacturing cost in this country may be on a more favorable plane than that of any other nation, nevertheless, this advantage can be offset by lower distribution costs to foreign countries. If we are to avoid cartels, regimentation, and perhaps even socialism in the United States, industry must reduce its cost of distribution. This is not fancy—it is fact.

As was stated editorially in this paper last August, "We believe it is imperative for American industry to tackle the problem of distribution with the same energy and resolution, and with something of the same urgency, that it tackled the production problem at the outbreak of the war."

Two-Fold Meaning

The word distribution has two separate and distinct applications: (1) The overall movement of all commodities, first as raw material, then as finished goods, from point of origin to point of ultimate use or consumption. This is the meaning of the word on a nation-wide or international scale. (2) Distribution may mean also the movement of finished goods only, from a point where they are saleable as such, to a point where they become, by sale, the property of a purchaser.

An individual company, be it producer, processor, wholesaler, or retailer, can contribute to the effort of reducing the cost of overall distribution only by doing something toward lessening its own distribution cost. With each unit lowering its own distribution cost the nation's total overall distribution cost will be reduced automatically. The combined savings of the many will be the total of the whole. This is the course by which industry in this country can reach the goal, and which it must attain if it is to meet competition successfully in the years ahead.

Honorable Service

The honorable service emblem will be awarded to 13,000,000 Americans who have risked their lives for their country. If these veterans are to have the respect and consideration they so richly deserve, this emblem should be as readily recognizable as the uniform they wore in armed service.

Of course, the cost accountant is the one responsible for the procedure to establish cost methods, but there is another angle to consider. When the traffic department is more widely consulted in transportation matters by management, it will tend to remedy one of the difficulties in modern distribution. As a rule, management does not clearly comprehend the procedures of the traffic department, any more than it does those of the cost accounting department. Be that as it may, management must be converted to the need for a real understanding of the importance of its transportation costs and the necessity for proper and adequate control of these costs.

As far back as 1934 the National Distribution Assn. pointed out that: "There is a new avenue open to industry in the direction of cutting down the cost of distribution. Today, the traffic department has the chance to take its place with the sales department and the advertising department in cost reduction, if management can be made to see the necessity of supervision over its transportation problems."

Management frequently holds that transportation cost involves only the railroad or truck freight rate, and ignores many other factors. This point was stressed by Mr. R. I. Tunney when he said: "In the replies to an inquiry addressed to some 20,000 large carload shippers, we were impressed by two things: first, the cost which the shipper pays for transportation over and above the railroad freight charges; and second, the small number of shippers who kept account of these costs. The elements involved are packing, crating, loading, dunnage, and transfer to the railroad, either by truck or by cars from industrial sidetrack. In many cases the aggregate cost of these elements exceeds the rail charges." Here the speaker referred to only a few of the items of cost of transportation. Actually there are many more, as we shall presently outline.

When management understands that transportation costs are as diversified as factory costs, advertising costs, and sales costs; when management realizes that operation and transportation costs are closely interwoven; when management takes decisive action to find out how its transportation costs are made up; then, and not until then, will management obtain reductions in the cost of transportation as astonishing as those which have been made in operating and manufacturing. Wasteful practices can be uncovered only through common sense cost methods and research; in any department and in every department of a business.

Cost Break-Down

Now in regard to the parts which make up transportation cost: as previously mentioned, it is inadvisable in any article to attempt to enumerate every single fragment. It is not advisable because each concern has a separate problem. However, among the costs are those catalogued below, and which are also set forth in the accompanying chart.

1—Freight inwards: freight charges paid by purchaser to the carrier by rail, highway, etc.; demurrage charges on inbound freight cars; storage charges paid to carriers; any special transportation charges such as for reconsigning, etc.

(*Continued on page* 80)

© 1945 The Studebaker Corporation

"Sorry I'm late for supper again but my truck was tied up in traffic all day!"

Will we let slow-poke streets slow up America's postwar progress?

MOST Americans never stop to think how traffic congestion hurts everybody, till they get stuck in a car that has to inch its way through a busy district.

Lots of us put the blame on trucks and other commercial vehicles, yet serious thought tells us that no community could keep going, if business transportation were ruled out.

The plain truth is that we're trying to make room for cars and trucks in streets and alleys that were largely laid out for horse-drawn times. And unfortunately, it's only recently that many cities, towns and villages have begun to open their eyes to the fix in which this puts them.

Long-range planning needed

Parking at the curb alone takes up five to six feet of the right-of-way on each side of a busy street—slows to a standstill the movement of through traffic for block after block, even if there were no cross-street vehicles or turn-offs to complicate matters.

Obviously, with building lines already fixed, it isn't possible to widen most streets or alleys in order to speed up vehicle movement. But many progressive municipalities are already at work on programs to ease the flow of traffic through their busier sections.

Everyone's help is urged

Conveniently located off-the-street parking areas, parking meters, one-way routes—all help some. But what's needed most is intelligent long-range planning for the day when two and even three times the motor cars and motor trucks we now have must be accommodated.

As America's pioneer and pacemaker in the manufacture of highway vehicles, Studebaker is planning to provide the public after the war ends, with cars and trucks that will be more maneuverable than ever before.

But that will only help make driving easier—it won't strike at the roots of traffic congestion. The cure for that must come from the public itself, through fostering and putting into effect sweeping improvements in local vehicle-operating conditions. Your co-operation can be very important in speeding the day of real relief.

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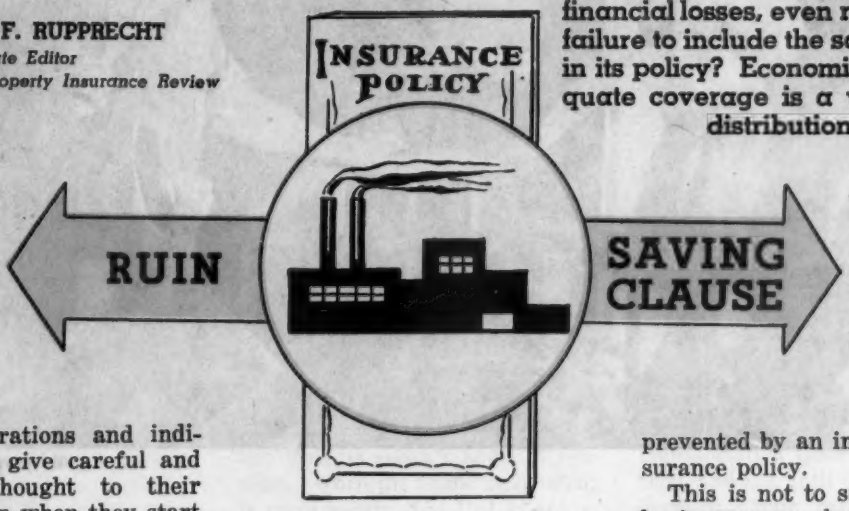
Wartime builder of Cyclone engines for Boeing Flying Fortress—heavy-duty Studebaker military trucks—Weasel personnel and cargo carriers

Your Basic Property Insurance Program

Why should a business face the possibility of sustaining severe financial losses, even ruin, through failure to include the saving clause in its policy? Economical but adequate coverage is a vital part of distribution.

By CHARLES F. RUPPRECHT
Associate Editor
The Spectator, Property Insurance Review



ALL corporations and individuals give careful and deep thought to their financial set-up when they start in business and, during the years that follow, changes in the structure are made in accordance with volume of business conducted. That is the natural instinct of every man, whether he is in business for himself, or whether he is an executive of a partnership or corporation. The motive, aside from the instinct, is generally provided by the banker who enters the picture at the beginning of the business or at the time of its first expansion. The banker shrewdly studies the trend of the field of business involved as a whole. He investigates the particular concern coming to him for credit to begin or expand business, and allocates the bank's funds in accordance with the outlook and capability of the firm. A business man listens to the banker carefully, and lets him talk as long as he chooses, for the natural reason that credit is sought.

The business man should follow the same plan when the time comes for him to give thought, as he must, to his insurance program. It may seem odd to him to think of seeking out an insurance agent or broker, but if he considers the matter fully, he will agree that it is the best course to follow. The fundamental reason behind such an action stems from the knowledge that no matter how soundly a financial structure is prepared or a business operated, some God-sent or humanly-contrived occurrence can affect it disastrously.

War Profits

In spite of the profits that are prevalent during wartime (with or without deductions of taxes), the principal credit agencies report business failures daily. Not only small, but large concerns fail because of some unlooked-for catastrophe which strikes from out of the proverbial blue sky. Many failures could be prevented by an inexpensive insurance policy.

This is not to suggest that a business man should advertise that he wants to talk to insurance agents or brokers, since his time would be occupied completely dealing with multitudes of agents and brokers. What is advised is that he carefully select the best man (or men) in the insurance field, and give him (or them) sufficient opportunity and time to prepare a sound and reasonable insurance program. An insurance agent or broker is favorably or unfavorably known by the "company" he keeps! To put this statement in another way, the best and strongest insurance companies select, as a rule, the most intelligent and conscientious men to represent them to the insuring public. This applies to any insurance company, whether it deals in stock, mutual, or reciprocal insurance.

To most individuals not engaged in the insurance business, the multitude of policies or coverages available is so complex and hard to understand at a quick glance that dismay and

annoyance with the subject and its advocators has become the general attitude. People want to "get it over with" as soon as possible, and with the least amount of effort. A good deal of this attitude was created by incompetent agents or brokers who did not themselves understand their contracts and were unable to present an intelligible explanation of the various conditions of the contracts and rates and the correct kinds of policies an individual's business required for safety. If an insurance representative is carefully chosen, and given the proper time allowance, he will point out the coverages needed, explain the basic conditions of each contract, quote rates and premiums, and give advice, up to a point, on what types of protection are needed. Following such presentation, the insurance representative should be requested to confirm his remarks in writing. By his so doing, the buyer will have a guarantee of the reliability of the agent's statements, and the opportunity of making up his mind when he is alone, and not subject to any "salesmanship pressure."

The insurance representative should be given sufficient time, at stated intervals, to go over carefully each type of insurance needed. This will save money in premiums paid, but, most of all, it will help avoid actual grief and calamity in the event a catastrophe strikes the property or business. The first step should be to consider carefully the basic, rock-bottom insurance necessities, which are fire, liability, workmen's compensation and automobile insurance.

Is the Rate Right?

The first thing that will quite properly come to mind in fire insurance is the question, "Is the rate and premium right?" It is an indisputable fact that fire insurance rates have steadily declined in the past 40 years, but that applies only to rates on all properties, and may not apply to a specific property. The insurance representative should therefore be empowered by letter to the district's rating bureau, to secure a copy of the schedule which shows exactly how a specific rate has been calculated. There is a basic rate to which are added charges for so-called "deficiencies" in the construction portions of the buyer's building, and for the type and arrangements of the contents therein. Some credits are allowed for protective devices such as fire extinguishers, water barrels and pails, watchmen clock stations, automatic sprinklers, wired glass windows, and steel shutters. The insurance representative should explain the whys and wherefores of each charge found on the schedule and if there are no credits, inquiry should be made as to what devices can be installed to get credits on the rate. If the problem is approached in this manner, the buyer will be very much surprised to learn the amount of thought and information that has to be given to the production of a fire insurance rate. Each item of cost of things that can be done to reduce a rate should be weighed, not entirely from a dollars and cents standpoint of cost against premium savings, but mainly from the standpoint of what those things may do to prevent, detect, or help put out a fire.

Study Your Policy

The form or paper attached to the printed policy which describes the property and exactly what is and what is not covered

Non-Scheduled Airline Formed

Formation of the first and only commercial all-cargo airline to operate on a non-schedule basis to any airport in the United States was announced recently by Air Cargo Transport Corp., Empire State Building, 350 Fifth Avenue, New York.

The new line is equipped with a fleet of especially designed twin-engined transports. Because cargo will be carried in each instance on a charter basis, delivery can be promised on a time schedule set forth in the agreement between shippers and the company. H. Roy Penzell is president and treasurer of the corporation.

Warehouses Seen as Future World Distribution Centers

THE place of warehousing in the overall picture of distribution was discussed by Gilbert McKeon, vice president, Metropolitan Storage and Warehouse Co., at a recent forum of the Aviation Section, N. Y. Board of Trade.

"Warehouses," said Mr. McKeon, "will become the worldwide distribution centers of tomorrow. This situation will be brought about by the increased use of air cargo as a form of transportation by domestic and international shippers."

The warehouseman, because of his experience with all types of containers holding every conceivable sort of merchandise, is the logical authority on packing and packaging for shipment by air, Mr. McKeon declared. Manhattan Storage Co. has conducted several successful tests in which packages containing fragile materials were dropped free and with special cargo parachutes from low flying planes. Breakage was negligible in both types of drops.

The outlook for insurance on air cargo, Mr. McKeon declared, is very promising. An insurance representative who was present at one of the Manhattan Co. demonstrations "was very favorably impressed with the containers used both in the free drops and in the parachute drops."

Proper packaging is of vital importance, Mr. McKeon continued, "because it has been my experience that the prompt payment of a damage claim is not nearly so satisfactory to the shipper as is the delivery of the merchandise in perfect condition."

Household goods will be transported by the air cargo planes of the future, according to Mr. McKeon. "Furniture," he declared, "will require little or no packaging or crating. It will be protected from damage by cotton or kapok padding such as that used by motor carriers."

should be studied. In 90 percent of the cases it will be found that a printed form labeled "Uniform Standard Form" is included. This printed form, regardless of the fact that it was devised by insurance companies, is quite complete and satisfactory to protect a property. Only in rare cases will it be found necessary to resort to drafting an especially-worded form. The printed forms have been tested in the courts over many years. The benefit of the doubt has usually been given the insured.

When a buyer has determined what he will do about his rate, and is satisfied about the wording of the form, the question of the proper amounts of insurance needed should demand attention. Full insurance to the value of a property is always desirable, not alone to give peace of mind, but particularly because it is actually cheaper than partial insurance. The so-called "co-insurance" clause is a safe clause to attach to policies if it is understood. If the 80 percent or 90 percent clause is attached to the policies it does not mean that only that percentage of any loss suffered will be paid. It simply requires that the insured carry at least the stated percentage of insurance to his value during the life of the policy. If he does carry such a percentage, he will be paid full loss value covered by the worded conditions of the policy.

If he owns, or has an interest in, merchandise which is located in more than one building, either in one state or many states, he should have it protected under what is known as a "reporting form" policy. This contract covers all the locations in one policy, and automatically covers not only the fluctuations of value, but any new locations acquired overnight. All that is required is to report the locations and the full value of the merchandise in each location once a month to the insurance representative.

The above procedures take care of basic fire insurance requirements. Next must be considered the so-called extended coverages which are offered by fire insurance, protection to property against damages through windstorms, tornadoes,

(*Continued on page 73*)

First Air Shipments Of Household Goods

RIGHT: First van load of household goods to be shipped by air being transfered to cargo plane at LaGuardia Field, New York, July 24. Chelsea Fireproof Storage Warehouses, Inc., was the ground carrier, American Airlines, the air carrier. Load weight was 18,500 lb. The plane a new type of cargo carrier, is a Consolidated Vultee four-engine transport.

ABOVE: Air van load of household goods on its arrival at Los Angeles, July 25, where it was received by Beverly Hills Transfer & Storage Co. The load consisted of standard furnishings for four six-room houses, including pianos and refrigerators. Cost of shipment was $3700, about 50% more than same shipment by rail.

LEFT: Two days after initial air shipment of household goods from New York to Los Angeles, a second shipment of 18,500 lb. was shipped by Manhattan Storage & Warehouse Co., and a few days later still another cargo was flown to the Pacific Coast by American Airlines for J. H. Evans & Sons, Inc., White Plains, N. Y. While still experimental, warehousemen and airline executives are convinced that household goods will be shipped regularly by air in the near future at attractive rates.

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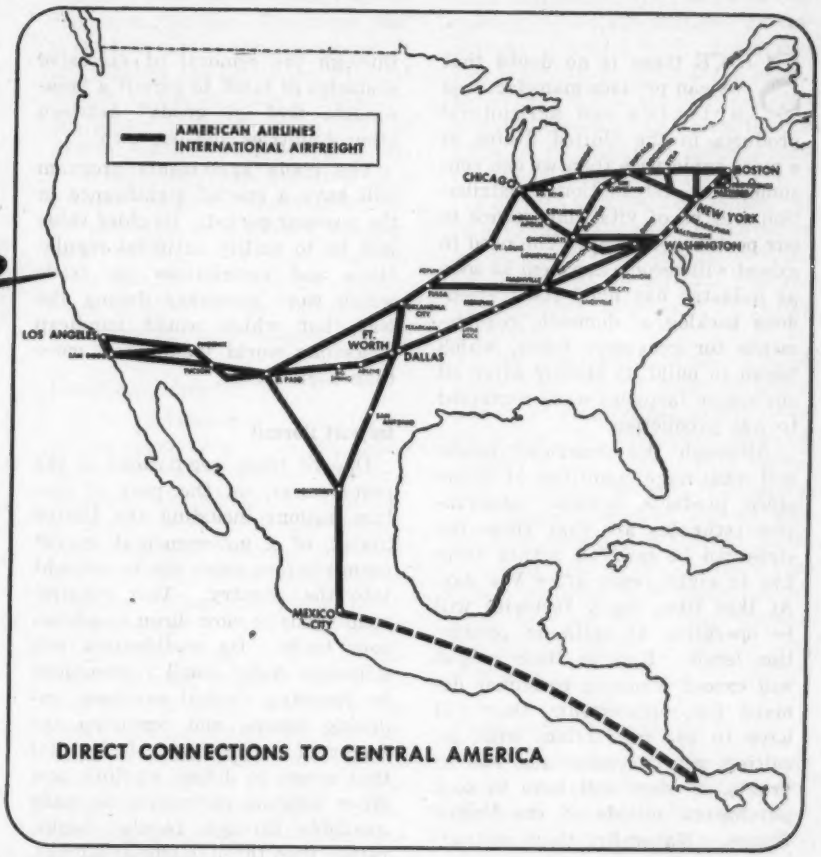

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THE NATIONAL AND INTERNATIONAL ROUTE OF THE FLAGSHIPS

Global Distribution

By GEORGE F. BAUER

International Consultant

SINCE there is no doubt that we can produce manufactured articles and agricultural products in the United States at a more rapid pace than we can consume them, international distribution will be of vital importance to our postwar economy. The need to export will become apparent as soon as industry has filled the tremendous backlog of domestic requirements for consumer items, which began to build up shortly after all our major factories were converted to war production.

Although the American public will want huge quantities of diversified products, present conservative estimates are that these desires can be satisfied within from five to eight years after V-J day. At that time, many factories will be operating at optimum production levels. Because their output will exceed domestic consumer demand for replacements, they will have to cut production, with resulting unemployment and loss of profits, or they will have to seek purchasers outside of the United States. Naturally, they will attempt the latter course.

Trade Agreements

If worldwide distribution is to thrive, certain fundamentals must be observed. In the final analysis, goods pay for goods. It is not enough for the people of a given country to produce merchandise in excess of their own needs. It must be offered to people in other lands who require it, in exchange for other types of manufactured items or raw materials.

The Reciprocal Trade Act, recently renewed for a three-year period, recognizes this fact. The act does not stand for free trade, but rather for increased volume of trade, through the removal of excessive obstacles of tariff to permit a "reasonable flow of goods" between other countries and our own.

The trade agreements program will have a special significance in the postwar period. Its chief value will be to nullify artificial regulations and restrictions on trade which were necessary during the war, but which would handicap peacetime world trade even more than high tariffs.

Import Permit

One of these regulations is the requirement, on the part of certain nations including the United States, of a governmental import permit before goods can be brought into the country. This requirement tends to slow down spontaneous trade. Its modification will stimulate many small transactions by lowering clerical expenses, reducing delays, and removing the factor of uncertainty. It is vital that access to dollar, sterling, and other national currencies be made available through regular banks, rather than through official sources, as the procedure stands now. The Reciprocal Trade Act can help in negotiations toward this end between the United States and other nations. It can also be used to facilitate the disposal of our stock of surplus war materials.

Surplus Disposal

The disposal of surplus war materials must be handled with caution if it is not to impair international distribution. If the government were to offer such items as typewriters, metals, food products, and trucks from surplus stocks at sacrifice prices, it would discourage sales in foreign markets of newer goods produced by these industries.

That the distribution of government surplus materials is an international as well as a domestic problem was recognized by executives at recent meetings of the N. Y. Board of Trade. The most important consideration, it was agreed, is the necessity of assuring employment opportunities in all industries.

It was decided that the government should determine the quantities of surplus available, the prices to be obtained, and the terms of payment. On the other hand, private industries should assume the task of actual disposal of the goods through their normal domestic and foreign channels of distribution.

Under such an arrangement parallel units would be provided by the government and by industry. For each category of products there would be a government unit to determine quantity, prices, and terms, and an industrial unit to handle actual sales. Speculation would be barred, and business would realize a legitimate profit on its services.

Monetary Standards

I believe that a return to gold as the basis of international currencies is desirable because it will permit appraisal of our government surpluses, our regular goods for export, and the goods of other nations in terms of a value understood by all the peoples of the world.

It is a mistake to think that a country must have a vast reserve of the metal to be on the "gold standard." All a country need do is keep income and outgo of gold in reasonable balance, just as it does

(*Continued on page* 84)

Postwar Terminal Operations

(*Continued from page 52*)

in handling trucked traffic in 1939, before hostilities broke out in Europe. This problem will be intensified after the war. In San Francisco, Boston, and New York, some use is being made of facilities on the bulkhead or immediately outside the transit sheds for the handling of trucked freight. This is a sharp departure from the previous practices of loading or discharging all trucks inside the transit shed. While bulkhead and transit shed facilities for highway traffic should give some material relief, the problem will not be entirely solved. Any permanent solution must be closely related to a terminal of adequate dimensions designed for the type and volume of traffic to be handled.

Assuming the impossibility of making any structural changes in the terminal, attainment of a higher standard of efficiency in freight handling operations becomes much more difficult. In such an event, a complete study should be made of the transfer operation from the time a shipment is delivered to the pier until it is loaded onto the outgoing carrier. This may call for an exhaustive job of research, extensive time studies, and the application of experimental practices by the terminal staff, or by a special group of experts.

Terminal Functions

In approaching the task, it should be remembered that the function of an ocean terminal is a very simple one. Its sole purpose is for the transfer of freight from one carrier to another. This may mean trans-shipment between a vessel and motor truck, railroad car, or lighter. The transit shed on the pier or terminal should not at any time be used for unlimited storage or permanent warehousing of freight. It is simply a transfer facility, and freight should be removed from the terminal floor and delivered to the outgoing carrier as soon as possible after its receipt.

(*Continued on page 90*)

The Merchant Marine And the Shipper

(*Continued from page 45*)

This may be tersely condensed in the words, cargo road factor. Full loads, both going and coming, make possible economical operations of the steamship line. The closer that maximum cargo carrying capacities are reached, the better the financial results to the steamship company; the better also the chances for greater renumeration to the American shipping representative. No greater incentive, consequently, can be provided to stimulate development of our export and import trade than the practical one of operating an American merchant marine profitably for all concerned.

Creating Demand

Few ambassadors, whether official or private, enjoy the popularity of the average American shipping representative. His recommendation with regard to suitable American products for local use are likely to be considered as unbiased. When it comes to creating a demand in the United States for foreign goods, his prestige becomes equalled by none but actual buyers visiting the country to examine and buy the products at first hand. Even to these "experts" in definite lines, the shipping representative frequently offers invaluable help by arranging contacts and affording guidance on local business procedure.

It would be amazing to learn of the large number of products introduced into other countries and the United States as result of initial aid given by American shipping representatives abroad. It has been fortunate for the United States that these "shipping ambassadors" have been stationed abroad as result of the operations of the American merchant marine in a great number of countries.

There were 'round world services before the war by several American flag steamship lines. Thirty essential trade routes were amply covered by American flag operations.

With the trend of American foreign trade moving in direction of many manufactured products with high unit values, the matter of frequency of sailings acquires an important aspect. With low-priced raw materials of which large inventories are kept on hand in the world's centers at all times, the facility of frequency of sailings may be less important.

But with automobiles, radios, refrigerators and similar consumer goods, delays of shipments in transit spell costs in interest charges and inability to benefit by faster turnovers.

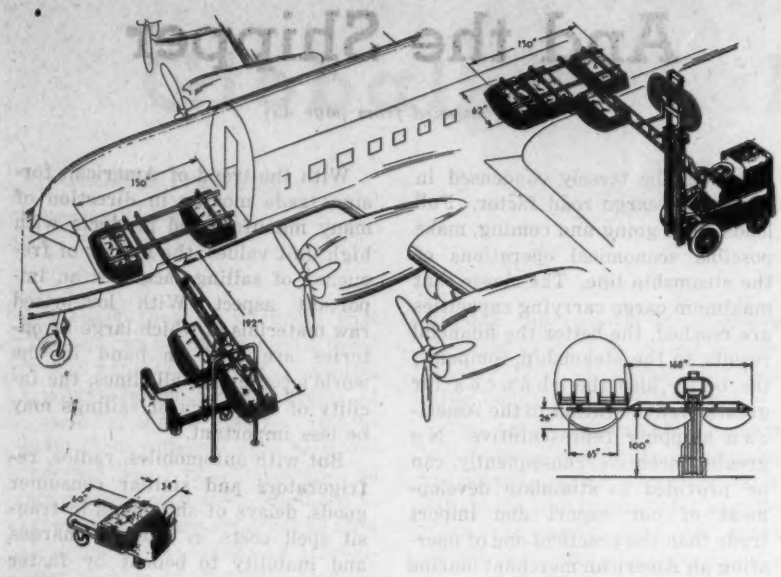
With many goods of this kind, a lower ocean rate if offset by infrequency of sailings tends to be less attractive to shippers than a slightly higher charge with assurance of prompt delivery. Frequency of sailings, therefore, has an economic significance in foreign trade. Anything that makes for more frequent facilities for transport of goods between other countries and the United States should be encouraged.

Competitive Factors

As result of the American merchant marine, our exporters and importers in normal times have had more and better facilities to move their goods promptly than they would have had without American steamships. Furthermore, the mere existence of these services has been an indirect assurance of fair freight rates on American goods regardless of destination and on foreign products, if destined for the United States.

In the competitive era after the war, there will be an increasing need of placing goods of all kinds within the purchasing reach of people everywhere. Much research will be required to determine the best methods of transporting goods in such ways as to keep damage and losses at a minimum.

Air Cargo Handling System



Courtesy of United Airlines.

FOR some months, United Air Lines has been developing devices for handling cargo more rapidly in the types of planes which will be used in the future. It is expected that DC-4 and DC-6 cargo carrying planes will be equipped with belly pits in which it will not be possible for men to work efficiently because of height. The illustration shows one device which has been developed in full-scale mock-up form.

This experimental handling system, on which patent rights have been reserved by United, uses interchangeable cargo containers, in the form of baskets measuring 65 in. by 34 in. Each basket is equipped with two small roller-bearing trolleys. The baskets may be pre-loaded with over 500 lb. of mail or cargo, transported to the plane with a fork truck, and slid onto overhead cross-rails within the plane. Longitudinal rails on the underside of the cabin floor beams make it possible to slide the baskets into either fore or aft belly pits. Four baskets can be placed in each pit.

Baskets are made of aluminum alloy tubing covered with wire. Each weighs 19.84 lb. net. The entire installation weighs only 225 lb. empty. It will permit the loading of 4,500 lb. of cargo in five minutes against the 10 to 15 min. now required to load 1,500 lb. aboard a DC-3.

United is experimenting with mock-ups of devices for handling cargo on the ground. So far, they have worked with portable monorail-equipped stands to which cargo baskets slide directly from the plane, and with hand-operated barrel lifts. For other than terminal stations, it is proposed to use a special boom which will lower or raise the baskets, and which will provide space for an extra container. Baskets may be pre-loaded and placed on board planes according to destination.

J. H. F.

Milk Handling

(*Continued from page 37*)

usually is placed in a small pail which must be handled from the pail and dumped into a five gallon can. The can must be handled to a cooler, rehandled from the cooler, with a small two wheel cart for transportation, to the road loading platform where it is picked up by a motor vehicle which has made pick-ups from other small producers. Then the milk has to be transported and unloaded at a processing plant to a system of conveyors with additional handling or dumping; the cans must be handled, washed, and returned to the motor vehicle or distribution to the road platforms where they are picked up and rehandled to the farm buildings for reuse.

At the processing plants in the country some milk is bottled for shipment in case lots, while a considerable quantity is shipped in bulk, in tank cars, or by tractor trailer tanks to processing plants in large metropolitan areas. In this chart, we are considering only the next step from the processing plant to the city plant by bulk. The transportation haul from the processing plant in the country to the city processing plant can be a distance of 50 to 150 miles or more. While this is a transportation problem, it also is a handling operation. Considerable thought has been given to improving this handling operation so as to reduce the amount of time involved, and the amount of equipment required for this work. There is still room for improvement on this operation.

At the city processing plant there are additional handlings. It is necessary to place the milk in containers for delivery to the consumer. At present, a wide variety of containers are used, both in size and construction. Some are glass, others special paper; they vary in size from half pints to two quarts.

Containers

We have not reached the ultimate in container design. Distributors of milk have to take into consideration customers' requirements, the conditions under which he will store and even pour the milk in his home, and while we are not going into the details of this phase of distribution in this article, it should be noted that a larger producer can afford more research, development, advertising and sales promotion than a small producer.

As far as this discussion is concerned, our primary interest is in handling. Whether the container is of glass or paper, we know that in producing the container or its component parts, there has been additional handling and distribution in its manufacture before it reaches the city milk producing plant. This is all a phase of distribution which must be integrated if distribution costs are to be reduced.

Under the present system, we have a handling problem in the case of glass bottles which are re-

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used. It is necessary to pick them up, return them to the city processing plant, and there start them through a system of conveyors and various types of trucks with quite a number of individual handlings, placing them in storage, and feeding them to mechanical conveyors through the soaker, the washer, the case washer, and up to the automatic filler.

If paper containers are made at the processing plant, they require the handling of raw materials, fabrication and distribution to the filling machines.

Savings in Costs

The milk which has been transported to the city processing plant, is automatically dumped, passed through a system of pumps and pipes, to the tester, the cooler, the pasteurizer and the filler. At the filler, the caps are applied to the bottles. The bottles are inspected and put into the cases; transported by conveyors into the cooler rooms where the cases are taken off the conveyors and hand stacked for storage until the morning delivery, when they are again rehandled, placed on a conveyor manually, and then on the delivery truck. From the truck they are handled again when the bottles are delivered to the consumer's doorstep.

Here again the large producer has reduced his handling operations as much as possible and is continuing to investigate means and methods of reducing these handling operations further in order to reduce his costs of distribution.

Savings in production costs are not necessarily reflected immediately in a reduced price to the consumer, but such savings allow more money for sales promotion, advertising, research affecting the quality of the milk, and the development of by-products.

The ultimate has not been reached in efficiency of milk distribution. We find that the size of the production unit has a bearing on overall production costs the same as in any other type of industrial process. There are still a number of places where savings can possibly be made in the distribution cost of milk by improved materials handling methods in every operation, the development and simplification of the type of container or package used, the possibility of consolidated deliveries in cities by streets or sections, and other ways which, no doubt, will suggest themselves after a study of the flow chart.

Costing Handling

(*Continued from page* 35)

truck operations with adequate forms, you are costing this distributive process properly. All that is needed is a tie-in with other distributive processes under "Distribution Cost" on your books. The cost of outside transportation must be studied with the traffic manager to appraise results. See Table 5 for breakdown of transportation cost items.

We'll assume that you have decided to cost your distributive processes in line with Table 2 instead of step-by-step costing. Here are the costing items for load movement, process No. 1.

TABLE 3

Fixed expense:
Depreciation on handling equipment.
Interest on investment in handling equipment.
Insurance.
Occupancy cost or rental of space to house equipment when not in use.
Variable expense:
Wages paid for operating handling equipment, including social security, workmen's compensation, etc.
Operating cost of handling equipment, fuel, oil, etc.
Maintenance and repairs.
Miscellaneous.

Fixed expense from period to period will remain the same, variable expense will change. The latter needs watching. For example, if repairs and maintenance on handling equipment begin to mount, your machines may be getting old and you need new ones or they are being mishandled. Wage cost increase may mean that labor is less efficient and that handling routine needs overhauling, better travel routes, better operating coordination to minimize delays, the adoption of palletized unit loads, etc.

Remember that costing distribution will not effect correctives. These recordings only provide information for you to act on. Corrective procedure is within the scope of this article. That is a matter of management, not costing. Cost records supply the data and make it possible for management to plan and direct operations most effectively, nothing more.

Costing Items

Here are the costing items for the next two distribution processes under Table 2 (storage and shipping).

TABLE 4

Interest on investment in handling equipment.
Depreciation on handling equipment.
Maintenance and repairs on handling equipment.
Operating expenses on handling equipment.
Insurance on handling equipment.
Rent and ownership expense for space used.
Wages paid to manual and clerical labor.
Heat, light, power.
Repairs and maintenance to building or space occupied.
Interest on investment in building or space occupied.
Office expense, such as cost-finding forms, telephone, office supplies, etc.
Storage supplies or shipping room supplies.
Miscellaneous expenses connected with finished storage or shipping room operation.

These items comprise the costs of storage or shipping room operation. Both processes have the same type of costing items. This table is Table 3 with overhead for space occupied by storage or shipping department. Load movement seldom carries overhead unless the equipment uses its own quarters and the space is large enough to make it worthwhile costing, in which case, only the space, light, heat, power and maintenance would be considered overhead. If the shipping department and storage are in the same building, follow the usual accounting practise in pro-rating costs to each distributive process.

Transportation costs, distribu-

tive process four under Table 2, break down to these cost items:

TABLE 5

1. Transportation charges and other levies made by carrier.
2. Insurance on shipments.
3. Traffic service.
4. Any other cost connected with transportation outward, if paid by shipper.

Transportation charges are fixed. Bills rendered are the cost. Likewise, insurance charges. Traffic service should be pro-rated to incoming materials and outgoing shipments in ratio to service rendered.

Pre-process handling and raw storage are a part of production expense, but they should be costed to cut the overall cost of distribution. This involves a step layout similar to Table 1, to wit:

TABLE 6

1. Transportation charges paid on incoming shipments, demurrage, insurance and traffic expense.
2. Handling from receiving platform to raw storage.
3. Raw storage.
4. Handling from raw storage to processing machines.

Cost each step separately or combine load movement as one distributive process. As with distribution after production, overlapping may make step-costing impracticable, the same men and machines may move loads from receiving platform to raw storage and then to process, which would complicate costing.

Obtaining Figures

Where do you get the figures for these cost items? From your regular books. You record them monthly at present with other business expenses, only you enter them under production and do not classify them as "Distribution Cost." Where manpower and equipment used in distribution do not overlap production, or vice versa, the procedure outlined herewith will entail no more work than before. The only difference will be that costs will be itemized in a special section reserved for distribution cost. Where production overlaps the distributive area, it will be necessary to pro-rate the cost between these two operating factors, depending upon the case.

In some plants, the load movement from in-process operation to outgoing carrier may be a continuous process, more or less. Ascertaining how much is chargeable to production, manpower and mechanical handling expense, and how much to distribution, is difficult. The line of demarcation is easily determined with the eye, perhaps, but recording this cleavage on the cost sheets requires time-keeping and other calculations that may be too involved, and, in many cases, a mathematical headache. In such cases, certain minor handling movements of this type may be permitted to remain under production cost where now recorded, otherwise, estimate the ratio of this cost chargeable to production and the ratio belonging to post-process distribution.

When we say finished production in this article, we mean finished insofar as the management is concerned. A plant turning out parts to sell to automobile manufacturers will start costing distribution when the parts are finished even though they do not represent a complete product for market to the ultimate consumer. Likewise with respect to raw materials. When the raw materials are processed for shipment to a fabricator, this is production's end for the raw materials manufacturer. His distributive costs then begin. For costing purposes, he may set up a routine in line with the tables shown in this article.

New Problem

Remember that while these tables contain only general costing outlines, they pose the approach to this new problem. Call in your cost accountant, your traffic manager, your sales manager, production man, purchasing agent, etc., to mull over this proposition. Costing distribution must start at home, not in the other guy's organization, and it must be a cooperative job among all executives engaged in the work of handling shipments and marketing them.

Improve your system as you go along. It is a new adventure, consequently, you can't expect to be letter-perfect the first try. If costing distribution were as common as costing production, a standard system of one kind or another might be installed and operated with little or no change. But revisions in costing distribution are likely, so do not be disappointed if your system doesn't click from scratch. Make changes as you go along toward the goal of better distribution for business betterment and national prosperity.

In This Corner . . .

(*Continued from page* 18)

even well informed people in industry, realize the weight of the factor of movement in distribution. It is not merely the act of putting the finished goods on a freight car or a motor truck and sending it one hundred or a thousand miles to its next destination—that is one of the minor parts of it.

Distribution Continuous

Distribution begins before raw materials enter the factory. It continues through the production chain, from operation to operation, and through intermittent stages of storage or transfer. What most people think of as distribution, namely, the final stage of getting the goods to the customer, is a relatively small and simple part of this element of cost. Moving, in fact, is the larger part of making any product.

In a modern factory, the movement of materials and parts, in many instances, is more important, more time consuming and costly than the actual production operations. It is not only costly *per se* from the labor involved but because of its cost-increasing effect upon the purely productive operations unless it is properly managed. Henry Ford was one of the early

(Continued on page 93)

Lower Shipping Costs Foreseen Through Use of Light Metals

Fabricators of light metals, now engaged in war production, are making plans for reconversion to civilian production, anticipating a ready acceptance by the public of aluminum and magnesium for railroad cars, trucks, demountable bodies and special containers.

By G. W. KNOTT

o o o

REDUCTION in transportation costs through greatly-increased use of light metals for shipping containers, trucks, freight cars, and other shipping equipment is one of the postwar stimulants promised by fabricators of aluminum and magnesium. War developments of these two metals have provided the "know-how" in techniques and proven their practical use in the postwar period in many fields, most prominent being the transportation equipment industry.

Overall cost advantages of light metals in construction of "less-than-carload" demountable bodies, freight cars, trucks and containers greatly outweigh initial higher costs.

Alcoa and Dow, original monopolists in production of aluminum and magnesium, now share the field with several other producers brought into the industry by urgent war needs. Choice of several competitive companies' products, instead of one source with a single supplier's restriction on use of its products, is encouraging a great number of independent metal fabricators to plan for expanded production of numerous light metal products.

Truck-Trailer Units

Successful demonstration of transportation savings effected through use of magnesium has been made by the Permanente Metals Corp. of California, one of Henry J. Kaiser's enterprises. This company has constructed and operated bulk hopper bodies of magnesium, metal mounted on Peterbuilt Diesel trucks with two trailmobile trailer units. This truck-trailer combination with the two magnesium bodies, believed to be the first large unit of its kind, has the following specifications:

Empty weight	29,150 lb.
Payload	47,170 lb.
Gross weight	76,320 lb.
Gross capacity	35 cu. yd.
Weight of magnesium bodies	3,906 lb.
Weight of steel used	12,120 lb.
Weight saving using magnesium	8,214 lb.
Or increased payload	4.1 tons

This unit has operated 8,000 miles to date.

The estimated cost for the magnesium truck bodies in production is $3750 each or $7500 for the pair. Steel bodies would cost $1750 each or $3500 for two. The extra cost for magnesium over steel of $4000 will be amortized, it is said, in four months for the additional truck revenue due to the increased payload.

For example, the Permanente truck is hauling magnesium four extra tons per trip or 12 extra tons per day, at the regular truck rate of $2.60 per ton, representing a net saving of $31.20 per day. This means that the increased cost of magnesium over steel of $4000 is amortized in 128 days or about four months, after which time the daily saving is a net benefit not possible to realize by conventional means. The Permanente truck by hauling additional payload, instead of dead-weight, offers manpower, fuel, and truck wear-and-tear savings which are obvious, but incalculable items.

Transportation Plans Call for Aluminum

Peacetime transportation is expected to consume about one-third of the total production of aluminum, the metal which made America's wartime air supremacy possible. The Aluminum Assn. announced recently in New York. Aviation will undoubtedly continue to be one of the largest users of aluminum as the industry switches over from the production of combat planes to airliners, big cargo transports and family hopabouts. Predictions for the automobile of tomorrow stress a lighter vehicle as essential to greater economy of operation, and aluminum already is being used extensively in the design of trucks and busses.

Aluminum will assume increasing importance to the American public not only in the various modes of travel and cargo shipment, but also in many different ways in the home, in factory and office, and on the farm. An almost limitless horizon lies ahead in the uses to which aluminum and its alloys will be put as the developments which were just beginning before the war are resumed.

The Bettendorf Co., Bettendorf, Ia., builders of freight cars and freight car equipment for 51 years, plans to enter production of aluminum and magnesium items as soon as the company is released from its present 100 per cent war schedule.

This company, maker of large less-than-carload containers, now made from steel and which are mounted on flat cars for longer hauls, then removed and mounted on automtoive truck chassis for local deliveries of their contents, expects to use the lighter metals in their construction after the war. In addition to use for furniture, chemicals, finished lumber, edible oils and other merchandise, their use will be extended to frozen foods. Ready acceptance of the light metal containers is expected because of reduction of dead weight and consequent increased carrying capacity, the corrosion resistance increasing the life span of the container.

Aluminum Cars

The Reynolds Metals Co., which entered aluminum production and fabrication during the war, foresees a great expansion in use of the light metals in transportation equipment. Officials of that company point out the great advantages derived from the lightness of these metals, reducing the center of gravity of freight cars, thus permitting greater speed with less motive power. Aluminum possesses good insulating qualities, also, requiring less ice for refrigerator cars and enabling shippers to make larger shipments of produce.

High resistance to corrosion makes aluminum ideally suited to construction of tank and hopper cars used for hauling coal, chemicals, minerals and petroleum products. This company also plans for enlarged markets for aluminum freight cars and passenger cars. Auto trucks and buses, making greater use of aluminum and magnesium parts, will be able to negotiate steep grades, start and stop frequently, with obvious savings.

Hundreds of fabricators of the light metals, now engaged in war production, are making plans for reconversion to civilian production, anticipating a ready acceptance by the public of the war-tried and proven light metals, aluminum and magnesium. (G. W. Knott)

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Glued Unit Loads

(*Continued from page* 39)

For the past several months, under the direction of the Bureau of Supplies and Accounts, the Navy Supply Operational Training Center, Bayonne, N. J., has experimented with the formation of glued unit loads of fiberboard boxes and wood boxes. Several types of glue were used in an attempt to provide a unit load wherein the cases would resist lateral force but could be broken from unit loads by a sharp upward thrust and with a minimum of damage resulting to the cases.

Quick Drying Glue

The type of adhesive selected for the formation of glued unit loads is of a vegetable base aqueous type, free from organic solvents. The glue is quick drying, water resistant, and will form a satisfactory bond in about five minutes. Several glued cartons were placed beneath showers for a period of several hours with negligible effect on the bond previously formed between the cartons. The glue does not penetrate the asphalt layers of V-board cartons, hence tearing of the cartons is reduced to a minimum. While it is anticipated that a majority of glued unit loads will not be broken down until ultimate destination, it is feasible to break out individual cases at any time for rehandling.

Following a series of successful tests, several actual rail shipments of glued unit loads of solid or corrugated fibre board cartons were made. Based on the successful arrival condition of these cars, the program of glued unit loading is being rapidly expanded by the Bureau of Supplies and Accounts. Glued unit loads have been successfully loaded aboard ship and reports on arrival condition overseas are anticipated.

Glued unit loads can be formed at contractors' plants with comparative ease. The material is usually received at the car on conveyors or dollies. (See illustration 1). Prior to being placed on the pallets the cartons pass over a glue pan similar to that shown in illustration 2. Illustration 3 shows one end of a freight car prior to shipment from Newark, N. J. Illustration 4 shows the doorway area of the car upon arrival at destination, Norfolk. Illustration 5 shows the interior of the same car upon arrival at destination. As these photographs indicate, the arrival condition of glued unit loads is highly satisfactory. When freight cars containing glued unit loads arrive at destination in the manner shown, considerable savings in man hours are effected in unloading operations. Subsequent handlings are expedited between freight car and shipside by the elimination of the strapping operations. Illustration 6 shows glued loads stowed in the 'tween decks hold of a cargo ship.

The use of glue in the formation of unit loads represents a considerable saving in material and labor costs when compared with strapped unit loads. Material costs alone average 80 per cent less. Labor costs are substantially lower.

The investment in glue pans incorporated in wheel conveyors or some special glue applicator is more than offset by the cost of strapping tools.

Wood boxes cannot be glue loaded in the same manner as paperboard containers. The physical characteristics of the boxes fail to provide sufficient contact area when crosstied in pallet stows to furnish a satisfactory bond. To overcome this difficulty glue has been applied to strips of 60 point chipboard and placed on the pallet, and between each layer of boxes. Illustration 7 shows the placing of the glued strips of chipboard around the perimeter of the standard navy pallet, criss-crossed in the center. These glued strips act as a filler to provide contact where irregularities in box surface occur. When subjected to a series of handling tests, unit loads formed in this manner were found to resist severe lateral shock or force. Yet, it was possible to remove the cases from unit loads with a sharp upward thrust. No damage occurred to the boxes as the point of separation was between the layers of chipboard and not between the chipboard and the wood boxes.

Dipping Process

Glue can be applied to the chipboard strips by brush or by means of a device developed by the navy which permits speedy application of glue by a dipping process. While the cost of forming glued unit loads of wood boxes is greater than the cost of forming glued unit loads of paperboard cartons, it is still considerably less than the cost of forming unit loads of boxes with straps.

The glued unit loading program is still in its infancy, but it is being rapidly expanded as its application becomes more widely known. The glued unit load has a definite place in the materials handling program of the Bureau of Supplies and Accounts.

Standardized Bolts

Simplification of stock production sizes and types of carriage, machine, and lag bolts was recommended recently by the division of simplified practice, National Bureau of Standards, Washington, D. C. General acceptance of the simplified lists by industry would benefit both manufacturer and purchaser, the Bureau stated.

Liquid Tire Inflation

Liquid inflation may be used in place of air for certain types of industrial equipment, W. A. Kemmel, manager, truck tire sales, Goodyear Tire and Rubber Co. announced recently. The tires of road graders, power mowers, and industrial trucks have been tested successfully while inflated with Goodyear's liquid Solution 100.

Field Warehousing In Distribution

Inventory financing is to play an increasingly important part in the overall distribution picture. Its potentialities, which in the past have been insufficiently understood, are tremendous, since it offers readily available means to credit in widely diversified industries.

By JOHN J. McMACKIN
Vice President
Tidewater Field Warehouses, Inc.
New York, N. Y.

NEARLY all business men are familiar with public warehousing. They know that a public warehouse is a place where they may deposit their merchandise in the custody of some one else for safekeeping. A warehouse receipt, either negotiable or non-negotiable, covering the merchandise thus deposited is received from the warehouseman. Most business men, further, are familiar with the fact that a warehouse receipt from a reputable warehouse organization is an excellent collateral instrument.

Many business concerns use warehouse receipts as a credit medium. Some business organizations have excellent storage facilities on their own premises, but feel they must transfer the merchandise to a public warehouse in order to obtain the advantage of warehouse receipt collateralization. This in most cases is erroneous.

Low Cost

Through the medium of field warehousing a factual public warehouse operation in most cases can be established on your own premises. The identical service that would ordinarily be obtained in a public warehouse is thus made available with your own facilities. The problem of setting up and operating the warehouse is solved by the field warehouseman. Of course, certain minor physical changes might be necessary, and certain documents containing understandings arrived at between the principals. The premises, or part of the premises, must be leased temporarily to the field warehouseman so that he may have physical control while the goods are to be stored.

The actual cost of this service is surprisingly low, usually a fraction of one percent based on the volume of merchandise entering the field warehouse. The manufacturer, distributor or processor, who must carry a large inventory to answer the demands of his trade, thus tying up considerable capital, can make excellent use of field warehouse receipt financing.

The loan on field warehouse receipts usually is made with the bank or lending agency normally used by the business concern in question. It is a fluid credit arrangement that permits the business operator to increase his loan up to an agreed limit by placing in storage additional merchandise. The loan is reduced as merchandise is sold and delivered from the warehouse. As one can see, this practice does away with the usual 30, 60 or 90-day note. Naturally the lending agency expects repayment of its loan during an annual period.

A credit arrangement based on field warehouse receipts offers excellent possibilities in post-war use. The large distributor, for instance, might find it valuable to use field warehousing as a credit protection medium. As an example, the X Cement Corp. supplies several large users of its product at various distant points. The quantities purchased represent considerable value, and some doubt is felt as to the credit responsibilities of one or more of these large purchasers. Arrangements are made whereby a field warehouse operation is established at the plant of the purchaser. All shipments of cement are delivered into this field warehouse and are not released to the purchaser until properly paid for. This procedure has been used in many industries.

Construction Boom

It is generally expected that we will have a tremendous boom in construction during the postwar period. Here again, field warehousing can be of considerable assistance. As an example, the A Construction Corp. has purchased a sizable building site for 400 houses. They call on a field warehouseman to set up a field warehouse operation at a location directly adjoining the construction site. Arrangements have been made with the banking institution handling the construction loan to advance money

against warehouse receipts covering the materials needed to complete the houses. The A Construction Corp. then proceeds to purchase all of the materials necessary.

Orders are given to its suppliers to deliver the lumber, sash, window frames, cement, plumbing supplies, heating equipment and other necessary items to the field warehouse, and upon their receipt in the warehouse, a warehouse receipt is issued to the lending agency. An arrangement is sometimes worked out so that, as materials are withdrawn, the field warehouse loan is reduced and the construction loan increased.

Spot Stocking

The large manufacturer or wholesaler, who finds it necessary to spot stocks for distribution purposes at various locations, can also take advantage of the opportunity offered by field warehousing.

For example, the D Food Co., had set up distribution facilities at six major points along the eastern seaboard. In order to supply its customers, it was necessary that a considerable quantity of goods be carried at each location. This meant a sizable tie-up of funds. Learning of the opportunities offered by field warehousing, an official of the company arranged for the establishment of a field warehouse operation at each of its distribution points. Some of the buildings that had been obtained at a very low rental needed some physical adjustments to make them usable warehouses. The cost of these arrangements, plus warehouse charges and bank interest still enabled the firm to make a profit because of its ability to regain this tied-up capital and use it for further investments.

Bank Collateral

However, the prime function of field warehousing is the placing of inventory on hand in a collateral position for banking loans. For example, the Z Toy Mfg. Co. found from experience that it was necessary to maintain production through the entire working year to meet the demands of the trade during the Christmas season. As can be readily seen, a considerable amount of capital was tied up in inventory set aside for the busy season.

Inventory Financing

Our distributive system, according to economists, must handle at least twice the volume of goods it did before the war if serious dislocation in production is to be averted. Inventory financing offers wholesalers, retailers, processors and manufacturers an invaluable and unique credit medium for building up inventories for expanded peacetime requirements.

A field warehouse operation was set up, and as merchandise left the production line in a finished state it was placed in this warehouse, located on the premises of the manufacturer. At the end of each week a warehouse receipt was issued for the total quantity inbound during the week. This warehouse receipt was deposited with the bank and a sizable percentage of the value represented thereby was credited immediately to the account. The assistance thus rendered enabled the manufacturer to operate successfully.

To give some idea of the scope of field warehousing, the following are some of the general types of merchandise now being field warehoused:

Agricultural products, foods and beverages, textiles and clothing, wines and liquors, fuel, building and construction materials, manufactured products, industrial materials, and miscellaneous raw commodities.

From this list one can readily see that field warehousing can adapt itself to the needs of nearly every type of industry.

Two-Way Truck Radio Past Experimental Stage

Radio control for the truck-trailer carrying important loads over the highways of the country has passed the experimental stage, and promises to become an important aid in dispatching motor freight.

F. M. Reid, chief engineer, Fruehauf Trailer Co., states that, "Radio communication between dispatching office and the truck-trailer would improve the speed, efficiency and safety of operation throughout the nation. In fact, it would be a safety measure for all types of road traffic because in times of accident, even to passenger cars, the truck operator is generally the first to stop to render assistance."

Application has already been made to the Federal Communications Commission by Highway Radio, Inc., a subsidiary of the American Trucking Assn., for two-way wave bands.

Cold Storage Space Held Adequate To Meet Major Current Demands

IT is very difficult at this time to predict the outlook in the cold storage field with any degree of accuracy, according to W. M. O'Keefe, secretary, National Assn. of Refrigerated Warehouses, a division of the American Warehousemen's Assn.

"However," he stated last month, "it can be said that thus far in 1945 the occupancy of public refrigerated storage space, generally speaking, has been far below that of 1944 and other war years. There have been exceptions to this general condition, principally at some of the Atlantic ports, Gulf ports, and Pacific Coast cities. The occupancy situation has improved somewhat recently, but it is anticipated that cold storage holdings in 1945 as a whole will be less than in recent years.

"Labor shortages still represent a serious handicap in storage centers, but it is hoped that this condition will improve. About a month ago 'food cold storage facilities' were placed on the production urgency list ('must' list) of the War Production Board for labor rating purposes.

"Labor wage disputes have caused work stoppages in cold storage establishments in several cities recently, but these instances were not too serious. It is anticipated, however, that labor wage increases will present somewhat of a problem to the industry generally in the future. Negotiations in connection with labor contracts are now being conducted in a number of storage centers.

"With the addition of approximately 50,000,000 cu. ft. of public refrigerated storage space in the United States since the beginning of the war, coupled with the lower occupancy above mentioned, there is no question but that our industry will be in position to meet all future demands made on it for cold storage service, both as regards government and commercial accounts."

The Class Rate Decision

(*Continued from page 44*)

points in eastern territory the official classification governed, but on transportation between points in southern territory and points in eastern territory the southern classification controlled. All in all, it was quite confusing and the Commission continued to prod the railroads for action.

1919 Consolidation

In 1919, it was possible to take another step. The rules pertaining to packing, marking and weighing, and descriptions of articles in the various classifications were practically the same in all territories. There were still many commodities assigned to different classes in each territory. Since the description of each article was the same, it was possible to publish one volume for all territories and still preserve the ratings of each of the three classifications by naming them in three columns, one for each. The Commission made such a recommendation, and it was adopted by the railroads in 1919. Thus was born the so-called Consolidated Classification, which is in effect at present. It should be mentioned in passing that the principal railroads were at that time still under the wartime (World War I) control of the Director General of Railroads, and this accomplishment was realized while they were under his direction.

The publication of the classifications in one volume put the railroads on the spot. Where there were differences in the ratings or classes assigned to the same commodity, the variations were plainly visible to shippers. Inquiries were stimulated, and explanations for the differences were sought. Complaints were filed and investigations were instituted by the Commission. Since 1919, the Commission has handed down a number of decisions in each territory. As a matter of fact, many of the ratings are those it prescribed.

Western Railroads Oppose ICC Decision

Western railroads recently filed a petition with the Interstate Commerce Commission asking reconsideration of the class rate decision.

"The west faces the alternatives of bankrupt railroads or higher rates on agricultural products, livestock, and raw materials if the decision is allowed to stand," declared William H. Dana, chairman, Western Traffic Executive Committee, in discussing the action.

The petition claims that the Commission's decision disregards the fact that the eastern states comprise primarily a manufacturing region, while the west is an agricultural area. Conditions are so different in the east and west that "what is proper for one is not necessarily proper for the other," the western railroads contend.

To some extent, therefore, the Commission has reversed itself. In this most recent decision the Commission did not admonish, recommend, or point out. It made an order after finding that to the extent the classifications of the railroads are different and non-uniform as reflected by the Consolidated Freight Classification, they are and for the future will be unreasonable. The Commission now requires to be done what it has recommended since 1887.

Fifty-eight years have passed since the Commission first "emphasized the necessity of a single classification for the entire country." To say that the Commission has the patience of Job may be an understatement. The period of its forebearance probably exceeded Job's by a number of years. On the other hand, some might attribute a 58-year delay to bureaucratic procrastination or to obstructive tactics of the railroads. But neither of such allegations would be correct. As already suggested, there were reasons against radical action. While uniformity of classification is a convenience, and desirable, nevertheless, it is a minor factor in a "general scheme which contemplates greater consistency in rate making and elimination of discrimination and inequalities."

Small Tonnage Affected

Only a very small tonnage, relatively, moves under class rates. It is so small that the reader may wonder why emphasis is placed on uniformity of classification. That point will be discussed later. For the moment we shall show the relative amounts of tonnage which will be directly and immediately affected. In Table 1 in this article the column headed "class rates" shows the carload movement at class rates, governed by ratings which may be immediately affected by the Commission's order. "Exception rates," as their name implies, are exceptions from the usual classification rating, and ordinarily are of restricted application, geographically or to certain routes, but are on a basis related to the first class rates. The column so headed in this table indicates the carloads moving under such rates. "Commodity rates" are restricted to specific articles and are of limited application.

The fact that so little carload traffic moves at class rates does not mislead informed shippers concerning the importance of the step which the Commission has taken. They see in it the beginning of an averaging or leveling process. Relatively, as will be seen from Table 1, more carloads move at class rates within eastern or official territory than within southern territory. These informed shippers see if a uniform fifth class rating is applied in both territories a situation such as the following might result. If fifth class in both territories is made 40 per cent of first class, as

(*Continued on page 77*)

TABLE 3

Certain Regular Class Designations and Their Percentage Relations to Class 100 in Respective Rate Territories. Rates in cents per 100 lb. for 598 mi.

Percentage of Class 100	Regular Class Designation			Present Rate			Prescribed Rate		
	Official	Southern	Western	Official	Southern	So. Western	Official	Southern	So. Western
100%	1	1	1	132	212	220	155	155	155
85%	2	2	2	112	180	187	132	132	132
70%	3	3	3	92	148	154	109	109	109
55%		4	4	..	117	121	..	..	..
50%	4	..	..	66	..	..	78	78	78
45%	..	5	..	..	95	..	..	..	..
37½%	..	..	5	..	..	83	..	..	..
35%	5	..	..	46	..	..	51	51	51

Percentages and classes extracted from mimeographed sheet No. 21, present first class rates extracted from Appendix 9, and prescribed first class rates extracted from Appendix 10, of Docket 28300 and 28310.

In sub-headings above, Off., Sou., West., So. West., refer to official, southern, western and southwestern territories.

Basic Property Insurance

(*Continued from page* 58)

hurricanes, strikes, riots, explosions (both internal and external, except from boilers), smoke and smudge, falling aircraft, and motor vehicles. The cost of all these coverages is so cheap that it is not wise to be without them.

Liability Insurance

Liability Insurance is the next basic insurance to consider. There are many occasions when a business is liable for injuries or damages to property of others. Many times a business is actually not liable, but someone thinks it is, and brings court action to prove it. This involves considerable legal expense. The casualty insurance companies now issue what is known as a "Comprehensive Liability Policy" which insures assumed legal expense against all claims for damages and injuries brought against a business. This policy was designed to combine in one policy many specific liability policies, such as owners, landlords, and tenants liability; elevator liability, or many forms of contractual liability insurance. This one policy covers all of them, and eliminates any possibility of a gap in coverage. There are many safety devices which may be installed in a property, not only to prevent loss, but also to reduce liability rate and premium.

Automobile Liability

Automobile liability, property damage, fire, collision and theft is the next basic line of insurance to consider. All of these insurances should preferably be placed in one policy and with one company for many reasons, but principally to have one company adjuster take the proper steps not only in protecting a property, but in actions brought by other parties at the time of the inevitable accident.

Getting Down to Cases In Distribution

FINANCE & INSURANCE • HANDLING & TRANSPORTATION
PACKING & PACKAGING • WAREHOUSING & MARKETING

By LEO T. PARKER
Legal Editor

FINANCE and INSURANCE

THE higher courts consistently hold that failure of the holder of an insurance policy to comply with provisions of the policy renders the policy void, so far as collection for a loss is concerned. The fact that noncompliance is unintentional does not render the policy valid.

In Gipps Corp. v. Central Mutual Ins. Co., 147 Fed. (2d) 6, it was shown that a company held fire insurance policies which covered buildings and contents thereof. The amount of the insurance at the time of a fire was $298,000. The policies contained numerous usual provisions; for example, the company would give immediate notice in writing of any loss or damage, and furnish a complete "inventory" of the destroyed, damaged and undamaged property, stating the quantity and cost of each article, and the amount claimed thereon.

The company had a fire loss, and immediately sent to the insurance company a "several page" estimate showing a total amount of loss of $119,790.79. In this account of estimated loss the company included 43,194 cases of bottles valued at $29,717. Later the testimony proved that these cases of bottles were not in the building when the fire occurred.

The higher court held that the preliminary estimate, although practically equal to an inventory required in the policy, did not comply with the terms of the policy. Particularly for this reason, and also for the inclusion in the "estimate" of 43,194 cases of bottles not destroyed, the higher court held that the insurance company may not be liable for payment of the loss. This court admitted that the company did not willfully or intentionally defraud or attempt to defraud the insurance company.

Profits Accumulate

It is unlawful for a corporation official to permit profits to accumulate beyond the reasonable needs of the corporation's business.

In Medical v. Internal Revenue, 141 Fed. (2d) 404, the question presented the court was whether or not a corporation permitted its earnings and profits to accumulate beyond the reasonable needs of its business, and whether or not the corporation was used for the purpose of preventing the imposition of the surtax on its shareholders, by permitting its earnings and profits to accumulate needlessly.

There was no dispute that: 1. the corporation officials permitted profits to accumulate, instead of being divided and distributed; 2. the accumulations were beyond the reasonable needs of the corporation's business; 3. and as a result of the failure to distribute these earnings the stockholders of the corporation avoided surtaxes.

The lower court decided in favor of the government, which sued the corporation to recover payments and penalties. The higher court approved the verdict.

Tax Is Lien

A federal tax lien is analogous to a judgment lien, and therefore attaches to after-acquired property of the debtor.

In Victor Co., 146 Fed. (2d) 831, the litigation involved the payment of fees to a receiver in the matter of the estate of a bankrupt corporation.

It was the contention of government agents that the income taxes for the three-year period 1920-1922, and also for the year 1936, must be paid before the receiver could receive any payment, and that the tax lien was effective on all property acquired by the corporation after the taxes become due. The higher court upheld this contention.

PACKING and PACKAGING

THE higher courts infrequently reverse the lower court in cases where the testimony is conflicting.

In A. M. Edwards Co., Inc., v. Hammond Box Co., Inc., 17 So. (2d) 53, La., the litigation was between a box manufacturer and a purchaser, and involved discounts or rebates to which the purchaser contended he was entitled. The counsel for the box company contended that the purchaser was entitled to 2c. per crate rebate only on the first 30,000 crates purchased during the season, whereas the buyer argued that he was en-

titled to the rebate on all crates purchased during the year.

During the trial the purchaser testified that before the beginning of the strawberry season he was contacted by a salesman for a box manufacturer who promised a rebate or discount of 2c. per crate on all crates purchased during the season. However, the box manufacturer's salesman testified that he obtained a blanket order for crates from the purchaser for 30,000 units at the regular price of 20c., allowing him a discount of 2c. per crate on this order, but not on an additional several thousand crates purchased during the season.

The jury rendered a verdict in favor of the purchaser. The higher court approved the verdict, saying:

"Suffice it to say that the case presents purely a question of fact and the evaluation of contradictory testimony. The lower court was in much better position than we are to say which of the two is to be believed."

TRANSPORTATION

ACCORDING to a late higher court decision, a licensed common carrier may become a legal private carrier, or a bailee for hire when, as a matter of accommodation or special engagement, he undertakes to carry something which it is not his business to carry.

In Graham v. Dean, 186 S. W. (2d) 692, Tex., it was disclosed that a carrier's license limited it to the transportation of such merchandise as household goods, used office furniture, etc. The carrier agreed to haul a heavy machine, outside the scope of its license. When unloading the machine, the carrier's employes negligently let it fall. Its owner sued the carrier for $595 damages.

It was contended that the carrier could not be held liable because it was unlawfully acting outside the scope of its license or certificate when the damage was done to the machine.

However, the higher court held the carrier liable, and explained that although it held only a specialized motor carrier's certificate, it would not be precluded from acting as a private carrier or bailee for hire in hauling some commodity which is not covered by the scope of such certificate.

Evidence Conflicting

Many carrier officials are under the false impression that a higher court will reverse a decision rendered by a public utility commission, if proof is given that the evidence and testimony upon which the commission based its decision is decidedly conflicting.

In Hazelton v. Public Utilities Commission of Ohio, 69 N. E. (2d) 673, O., it was shown that a private contract motor carrier, engaged in business of furnishing transportation of films and supplies for theaters, filed an application with the commission to serve additional theaters. The commission refused to increase the scope of the permit in view of the testimony presented by the protesting common carrier which specialized in furnishing transportation of films and supplies for motion picture theaters.

The private carrier appealed to the higher court and proved that the evidence was conflicting as to whether public interests required that the application be granted. The higher court approved the verdict of the commission, and said:

"From all the evidence, conflicting inferences arose as to whether the public interest required that the application be granted. The commission exercised its discretion and this court cannot say that the order denying the application was unreasonable."

MARKETING

UNDER all circumstances, sellers of merchandise should be certain to conform with state laws before selling their products in foreign states.

In Poston Springfield Brick Co. v. Brockett, 183 S. W. (2d) 404, Mo., it was disclosed that a seller sued a purchaser of brick to recover $380.38.

The testimony showed that the seller's principal place of business is Springfield, Ill., and he sold the brick to a purchaser in Missouri out of a stock of brick which was stored in the latter state.

Testimony showed that a Missouri State law provides that a foreign corporation cannot file a suit in the state unless it has obtained a license to do business in the state.

The lower court held the seller not entitled to a recovery, and the higher court refused to listen to an appeal filed by the seller.

Rebate Invalid

In Ohio Tank Car Co. v. Keith Railway Equipment Co., 148 Fed. (2d) 4, the higher court held that where a distributor or marketer of merchandise gives shipping instructions and signs bills of lading as consignor, he is a "shipper" and prohibited by statute from receiving rebates, concessions, or discriminations in freight rates. This rule of law is applicable although the freight charges are paid by the customer as consignee.

Injunction Invalid

Neither a manufacturer nor his distributor may obtain an injunction to compel the other to comply with the terms of an exclusive agency contract.

In Melia v. Hoff Brewing Corp., 8 N. W. (2d) 141, Mich., it was shown that a brewery company appointed a distributor as "exclusive wholesale distributor" of its beer in designated counties, for a "period of five years."

The distributor had acted as exclusive wholesale sales agent of beer in the specified territory for approximately one year, when the brewery company terminated the contract.

The distributor filed suit and asked the court to compel the brewery company to fulfill its contract and deliver beer as agreed in the contract for the remaining four-year period. However, the higher court refused to grant the injunction and said that the distributor's relief lay in suing the brewery company for damages for breach of the contract.

WAREHOUSING

A MODERN higher court has held that although a warehouseman complies with a state law and equips his warehouse with fire doors, he may be negligent and, therefore, liable for fire loss if he fails to inspect and keep the fire doors in good repair.

For illustration, in Schell v. Miller North Broad Storage Co., Inc., 61 Atl. (2d) 180, Pa., it was shown that goods stored in a warehouse were destroyed by fire.

The owner of the goods sued the warehouseman for value of the goods and alleged that the loss resulted from the warehouseman's negligence in failing to keep in good repair fire doors which had been installed by requirement of a valid law. This court held:

"Installing the fire doors according to a statute or an ordinance was not the full measure of appellee's (warehouseman's) duty. It was obliged to maintain them in such condition that they would perform the function for which they were installed. It was required to maintain doors, and the doors were effective only if kept in a fit condition; it was obliged to keep them in repair; and for the purpose of making repairs it was required to make such inspections as were reasonably necessary to discover such defects as might exist."

Warehousing Question

Question: Recently, we had a law suit filed against us by an employe who claims that he suffered injury through negligence of a physician whom we employed to examine him. Can we be held liable for his injury? **Groves Transportation Co.**

Answer: Generally speaking, an employer may be held liable in damages for all injuries negligently caused employes.

For illustration, in Rannard v. Lockheed Aircraft Corp., 157 Pac. (2d) 1, Cal., the question presented the court was: May an employer be held liable in damages to an employe where the testimony proves that such employe suffered injury by negligence of a physician employed by the employer to examine prospective employes?

In holding in the affirmative, the higher court explained that the employer was not relieved from liability for the physician's negligence on the ground that it is a corporation, and cannot lawfully practice medicine.

Therefore, it is quite apparent that you may be liable. If you believe the employe may be able to introduce testimony in his favor, perhaps it is advisable that you compromise the case.

People in Distribution

HANDLING & TRANSPORTATION

Ernest S. Wheaton has resigned as vice president and general manager of the Aero Mayflower Transit Co. **John Sloan Smith**, for the past five years vice president and director in charge of the purchase and maintenance of equipment, has been elected general manager.

Harold Gatty, who flew around the world with the late Wiley Post in 1931, has returned to the Pacific-Alaska division, Pan American World Airways, and will assist in putting into operation Pan American's proposed worldwide postwar plans providing international air services.

A. J. (Del) Reiner, lake traffic manager, Jones and Laughlin Steel Corp., has been elected president of the Propeller Club, Port of Cleveland, having previously served as vice president. **C. C. Lindeman**, of M. A. Hanna Co., was re-elected vice president, and **Joseph G. Wood**, Wilson Transit Co., was elevated from secretary to a vice presidency. **Alfred Alexander**, Tomlinson Fleet, was named secretary, and **David W. Sullivan**, Gartland Steamship Co., was re-elected treasurer. Retiring president is **Leonard H. Feldmeyer**, Great Lakes Engineering Works. (Kline)

Nicholas Snyder, Los Angeles, **Robert Pike**, Long Beach, and **Holly Humphreys**, North Hollywood, are listed as directors of Pacific Pilots, recently incorporated with a capital stock of $25,000. (Herr)

California Assn. of Port Authorities has the following new officers: president, **Thomas Coakley**, member of State Harbor Commissioners, San Francisco; vice president, **Charles B. Howard**, president, Howard Terminals, Oakland; secretary, **Mark Gates**, secretary, Board of State Harbor Commissioners, San Francisco; treasurer, **Fred Parr**, president, Parr-Richmond Terminals, San Francisco. (Herr)

Robert H. Burns has been named manager of Transport Clearings, Los Angeles. (Herr)

Maj. Gen. C. R. Smith, retired, formerly deputy commander of Army Air Transport Command, has been elected chairman, American Airlines, Inc., and **Ralph S. Damon**, formerly vice president and general manager, becomes president. **A. N. Kemp**, president since 1942, remains a director. (Kline)

I. M. Herndon will succeed **J. S. Brown** as manager of transportation department of the Chicago Board of Trade on Jan. 1, 1946.

Landis P. O'Brien, Lakewood, O., has been elected executive vice president, Huber Motor Transportation Co., Tiffin, O. (Kline)

Harlow Meno, formerly a surveyor with the United States Salvage Assn., has joined the Ann Arbor Railroad Co. as assistant marine superintendent, and will be located in Frankfort, Mich., headquarters of the railroad's five Lake Michigan carferries. (Kline)

Port of Los Angeles-Long Beach branch of the Propeller Club of the United States has elected the following: president, **H. E. Pickering**, manager, W. H. Wickersham & Co.; first vice president, **Leo E. Archer**, manager, Moore-McCormack Lines; second vice president, **Leonard T. Bachus**, manager. Firemen's Fund Insurance Co.; third vice president, **E. A. MacMahon**, district manager, Luckenbach Steamship Co., Inc.; secretary-treasurer, **Howard W. Woodruff**, district manager, Williams, Diamond & Co. (Herr)

Percy E. Benjamin has been named manager, newly-formed department of industrial development, New Haven Railroad, with headquarters at Boston. (Kline)

War Production Board has announced the appointment of **W. C. Glynn** as transportation consultant, assisting **Benton R. Cancell**, director of WPB's Forest Products Bureau. Mr. Glynn will handle all transportation problems for the Containers, Paper, Paperboard, Printing and Publishing, and the Lumber and Lumber Products Divisions.

Joseph H. Cassen has been appointed supervisor of International Information for American Airlines, Inc.

Robert G. McLain, superintendent, Public Relations, Railway Express Agency, has been named manager, Air Express, eastern departments, succeeding **Ralph W. Starkey**.

Personnel changes made in the Los Angeles division of Luckenbach Steamship Co. include the following: **Bernard J. Caughlin**, promoted from cashier to assistant district manager; **George A. Pearson**, formerly with California Shipbuilding Corp., cashier; **Robert K. Garland**, to the newly created post of assistant purchasing agent. (Herr)

Col **W. C. Bickford**, general manager, Port of Seattle, Wash., has been appointed chairman of the important ports and facilities committee of Gov. Mon C. Wallgren's state progress and industry committee for Washington. **John P. Herber**, foreign trade secretary, Seattle Chamber of Commerce, was also appointed to the committee. (Litteljohn)

Maj. John T. Stickney, formerly assigned to the Army Air Forces Eastern Flying Training Command, has been appointed superintendent of passenger service of Eastern Air Lines, Inc.

C. G. Massoth has been appointed staff assistant, with the combined duties of public relations agent and assistant editor of the Illinois Central Magazine.

P. H. Waldorf, terminal superintendent at E. St. Louis, Ill., after 49 years' service with the Illinois Central System, has retired, and is succeeded by **W. E. Curley**, assistant superintendent of passenger service, Chicago Terminal. Mr. Curley's duties will be taken over by **R. L. Tooker**, trainmaster, Iowa Division, Freeport, Ill.

N. R. Heck, formerly chief clerk with the traffic department of the Jones & Laughlin Steel Corp., has been named assistant traffic manager. (Kline)

MARKETING

Thomas J. Bannan, president, Western Gear Works of Seattle and Los Angeles and its associate, the Pacific Gear & Tool Works of San Francisco, has been elected vice president, American Gear Mfrs. Assn.

William L. Batt, vice chairman, War Production Board, and president, SKF Industries, Inc., continues as chairman of the board, American Management Assn., it was recently announced; **Thomas Roy Jones**, president, American Type Founders, Inc., as vice chairman, and **Alvin E. Dodd** as president. **Keith S. McHugh**, vice president, American Telephone & Telegraph Co., is chairman, executive committee of the association.

John M. Metes, formerly with W. R. Grace & Co., has joined Barium Steel Corp. as export manager of its subsidiary, the Clyde Iron Works, Inc. (Kline)

C. E. Skoglund has been placed in charge of distribution and organizational activities for Connecticut and

western Massachusetts for the Kelvinator Division, Nash-Kelvinator Corp. **Edward H. Small** was named district manager of the Newburgh-Poughkeepsie area. (Kline)

Supreme Distributing Co., Inc., capital stock $50,000, with headquarters in Los Angeles, recently issued articles of incorporation, has as directors **G. A. Anderson**, Los Angeles; **Herbert T. Silverberg**, Hollywood; and **Robert L. Lippert**, San Francisco. (Herr)

Sam L. Harvey, formerly zone manager, International Harvester Co., industrial division, Atlanta, Ga., has resigned to become vice president in charge of sales, tractor division, North Carolina Equipment Co., with headquarters in Charlotte. (Kline)

Arthur Rascher has been named export sales manager, Hobart Mfg. Co., Troy, Ohio. (Kline)

Albert J. DuPont, former export manager of Tidewater Associated Oil Co., has become assistant to the president and director of Georgia International Corp. (Kline)

Elmer Nagy, formerly president, Electric Water Conditioning Co., Inc., Los Angeles, has been appointed chief, production service division, WPB, Southern California regional office. (Herr)

Roy Crawshaw has been appointed manager of engineering and sales of Western Gear Works, Los Angeles and Seattle, and has relinquished his position as manager of plants, Los Angeles district. **P. L. Bannan** has been named manager of manufacturing for all plants of the company. (Herr)

C. F. Cushing has been named distribution manager and **James N. Crawford** sales manager of the gas heating division, Bryant Heater Co., Cleveland. (Kline)

WAREHOUSING

Robert C. Greeley, president, Greeley General Warehouse Co., was named president, Assn. of Cleveland Warehousemen recently. Other officers are: vice president, **C. N. Smith**, vice president of the Sheriff Street Cold Storage Co.; secretary-treasurer, **Frank L. Conaty**, president, Curtis Storage Co.

Frank Burns, head of the Blue Line Storage Co., Des Moines, was elected president, Iowa Warehousemen's Assn. recently. **John Rude**, Marshalltown, was named vice president and **Joe Roederer** of Davenport, secretary-treasurer.

After 26 years with Sinclair Refining Co., **Harry Wilson**, Kimbrough Towers, is leaving as general agent to assume duties of general manager of the Owner's Trucking Co. of Syracuse. (Grissam)

Clarence A. Aspinwall, president, Security Storage Co., Washington, who has served as president, American Institute of Refrigeration, for the past two years, has been succeeded by **A. H. Baer**, Canadian Div., Ottawa Branch WPB, Ottawa, Canada. Mr. Aspinwall continues as a director, American Institute of Refrigeration, and chairman of its Furs and Fabrics Storage Division.

Beatrice Parker, assistant secretary, Southwest Warehouse & Transfermen's Assn., has been elected president, Fort Worth Woman's Traffic Club.

Charles Fitzpatrick has been elected president, Pennsylvania Furniture Warehousemen's Assn. Mr. Fitzpatrick, who is president, Philadelphia Chapter, PFWA, and has long been active in warehousemen's circles, especially in Philadelphia and throughout Pennsylvania, has been connected with the Fidelity 20th Century Storage Warehouse Co., Philadelphia.

A. M. Christensen of Minot, N. D., has resigned as president and director, Dakota Transfer and Storage Co. **Robert J. Babcock**, formerly of Minot, manager of the Twin Cities-Chicago division of the company, stationed in Minneapolis, is new president. **Robert E. Theel**, Grand Forks, succeeds him as first vice president.

Richard M. Johnson, for the past five years' general manager, Herria Transfer and Warehouse Co., Inc., Shreveport, La., has resigned to become general manager and operating executive for Gathright Van & Transit Co. of Arkansas, with headquarters at Pine Bluff. The opening of combined merchandise and household goods warehouses in Little Rock, Ark., Shreveport and Jackson, Miss., is planned.

F. E. Jones, Sr., has been elected executive vice president, Universal Terminal Warehouse Co., Houston, Tex., as operating head of the firm to succeed **L. L. Schwecke**, president, who has resigned after having been with the company 20 years, the last 10 of which he was president and general manager.

Robert A. James has retired as president, Canadian warehousemen's Assn., and has been succeeded by **George A. Keates**, who has also served as chairman, advisory chairman, divisional chairman and treasurer. Mr. James will carry on as vice president and **M. A. Rawlinson** is new treasurer. Directors include: **W. E. Martin**, **A. J. McKee**, **William B. Cowan**, **R. A. Whitman**, **J. Colburn**, **Lewis Denison**, **C. R. Johnston**, **A. H. Minshull**.

Obituary

E. F. L. Sturdee, general passenger agent, Canadian Pacific Railway, Seattle, from 1919 until 1924. Mr. Sturdee had been assistant general passenger agent for C.P.R. in Montreal since 1937. He retired a year ago. (Haskell)

Archie B. Martin, 73, executive vice president, Crown Zellerbach Corp. He was also president, Pacific Mills, Ltd., British Columbia, and had been associated with Crown Zellerbach for 30 years. (Haskell)

Roy A. Wade, traffic manager, Union Iron Works, Erie, Pa. (Kline)

Alfred J. Bayer, 69, president, A. & F. Aluminum Co., and A. J. Bayer Iron Works, Los Angeles. In addition to heading the two Los Angeles firms, he was associated with Albey-Ferguson Co., Cincinnati. (Herr)

George J. Lincoln, charter and honorary member of the Traffic Club of Philadelphia.

Mark H. Harris, 58, manager of new products, Lewt Corp., Brooklyn. (Kline)

Roy V. McCormick, 63, owner of a chain of butcher shops, and past president, Seattle Meat Dealers' Assn. (Haskell)

Alexander Aldrich, 77, retired traffic manager, Sun Oil Co., Toledo, Ohio. He had been with the firm for 36 years. (Kline)

Walter M. Corby, 62, for several years traffic manager for American Flours, Inc. (Kline)

Otto J. Hammon, 77, manager, Summit Traffic Service, Akron, Ohio. He was general freight agent, Bessemer & Lake Erie Railroad from 1900 to 1910. He left the railroad business in 1925 and became chief traffic clerk at Goodyear Tire and Rubber Co. (Kline)

Robert Malcolm Bowes, 60, president, Bowes Seal-Fast Corp., Indianapolis. (Kline)

John W. Snyder, 78, vice president, Vulcan Corp., Portsmouth, Ohio. (Kline)

Frank B. Silk, 73, president, Munroe Falls Paper Co., Munroe Falls, Ohio, and the Massillon Paper Co., Massillon, Ohio, and vice president, Massillon-Cleveland-Akron Sign Co.

Fred W. Berry, 67, retired manager and treasurer, Baltimore and Ohio Warehouse Co., Cincinnati, position he held for 28 years. Mr. Berry retired two years ago, after 44 years of service with the road. (Grissam)

The Class Rate Decision

(*Continued from page* 72)

The present first class rates in both territories are used, in official classification territory the rates will be increased from 35 to 40c., and in southern territory reduced from 62 to 55c. If sixth class rates are placed on the same percentage relationship to first, in both territories rates would be increased; in official territory, from 28 to 34c., and in southern reduced from 55 to 47c. But more shippers would bear increases, since more cars move at carload rates in official than in southern territory.

Objections to Uniformity

Shippers objected to strict uniformity and said that the carriers should continue to have freedom to classify articles in their own territories in the light of prevailing conditions, commercial demands and necessities and competition. They think some reforms should be made, and suggest that there should be the same number of classes in all territories, and a uniform relationship between them. It is pointed out that the existence of so many exceptions and commodity rates indicates that class rates do not meet and cannot reflect the actual needs and requirements of the respective articles as indicated by their inherent nature and transportation characteristics, nor will the railroads be able to meet the changing conditions resulting from the competition of other carriers, particularly motor carriers.

The railroads, and the shippers supporting their position, say that the present system permits of flexibility in meeting changes and in reflecting conditions which require individual treatment. Flexibility, in their opinion, is of greater importance than uniformity, which, they say, would tend to freeze the rate pattern against change. Commodities moving in carloads under exception or commodity rates are far greater than those moving on class ratings. For some years there has been substantial uniformity in the upper three classes and many rates have been fixed a ta percentage of the first class rate. Where there is a need for more uniformity, it should come as a result of experience, not of pressure for establishment of certain patterns.

Shifting of rates now in the classification tariffs to a basis reflecting the first class rates and the percentage relationships of the other classes as they presently exist in eastern territory would result in a multiplicity of changes. Many reductions and increases would be required. The railroads say the shippers want uniformity only when the revisions are downward, and oppose it, if accomplished by increases. Perhaps this accounts in some degree for greater support for uniformity in the South and West, where the reductions will greatly outnumber the increases. The railroads in those regions would suffer considerable loss in revenue. One western railroad official said, if uniformity is to be required, the revisions should be upward "unless you give the railroads away."

Discrepancies

Table 2, as part of this article, prepared from figures in the Commission's decision, shows in the "number of ratings" column that, in official territory, there is greater adherence to the class ratings. They have been observed to a less degree in southern and western territories. The carriers in those last-named territories have taken care of individual situations by making exceptions to the classifications or have provided commodity rates. In many cases where that has been done, the actual rates have been brought into line with competitive rates in official territory. Therefore, in those territories, the actual rate patterns reflect the class rates to a lesser degree than does the rate pattern in official territory.

The percentages of the first three classes (100, 85, and 70 per cent) are the same in all three. There are more ratings in official territory in each of these classes than in each of the other two territories. The percentages assigned to the other classes are different in each territory. But whether one refers to the same percentages in southern and western territories or to the percentage of the nearest analogous class, the numbers of ratings assigned to the classes in southern or western territories are less than in official territory. Using the rates of Aug. 3, 1942, as they were then assigned to the classes, substantial reductions would be required in southern and western territories, if rates of official territory are assigned to the same classes in those two territories. The hope of obtaining such reductions through uniformity with ratings of official territory may explain why the principal support for uniformity is found in the southern and western states.

Factors Considered

In the classification of commodities and in assigning ratings, the railroads say they observe the following factors: weight per cubic foot per article packed, liability to damage, liability to damage of other goods, value per pound in comparison with analogous articles of same weight and value, comparison with competitive articles, and of the packing, to determine the extent to which the capacity of the cars can be used, commercial conditions, the unit of sales, trade conditions and value of the service.

The weight which may be given to each factor may vary. The influence of each factor may change with changes in conditions. When railroads had a practical monopoly of transportation, value of service was a most important factor. Value of service is sometimes described as "what the traffic will bear." The Commission describes it as the "ability to bear a particular rating with profit to the shipper or manufacturer and the railroads." The carriers urge that the importance of value and density in the classification of articles cannot be determined by a fixed rule, but is dependent in a large measure on the exercise of judgment.

Motor carrier competition caused less consideration to be given to value. Trucks have great flexibility,

(*Continued on page* 87)

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The reopened Ledo-Burma Road is China's life line.

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American engineering genius built them. American transportation genius keeps the trucks rolling.

We take pride in the part played by Gerstenslager-made trailers in making advanced supply routes fully effective.

We also take pride in the performance of Gerstenslager truck and van bodies on the home front during these days of heavy war-time demands and limited replacements.

The GERSTENSLAGER Co.

WOOSTER, OHIO *Established 184*

TRAILERS AND CUSTOM-BUILT BODIES FOR VANS AND TRUCKS

Invisible Cost Factor

(*Continued from page* 33)

service costs. Other companies campaigned to train the driver and save the truck. Safety campaigns also help cut service costs in cases where danger to life and limb results from the mishandling of mechanical apparatus. Manufacturers may well consider consumer education to cut service costs. Lower service costs will reduce the cost of distribution proportionately. Obviously, the more carefully a product is handled, the lower the service cost will be, and the more the consumer will be satisfied.

5. New postwar products. Dun and Bradstreet, which recently checked 22,314 companies on postwar operations, reports that 37 percent of the manufacturers and 44 percent of the wholesalers will offer new lines or new products after the war. New products mean new types of service, and this makes it more imperative than ever to make postwar plans now. Costs may be excessive if a manufacturer starts marketing new products without mapping procedures, budgeting costs, and keeping service cost records to effect maximum economy.

6. Competition from wartime developments. Farm equipment manufacturers are already becoming uneasy over the prospect of tank farming in the postwar period. Other revolutionary improvements, in consumer products, will come to market when the guns cease firing. To sell profitably against such competition, the manufacturer must service his product to satisfy the consumer, and do it economically enough to satisfy his bankroll.

7. Lower consumer prices after the war. Government planners are demanding lower consumer prices because they contend that distribution costs between manufacturer's selling price and consumer purchase price are too great. In 1939, distribution costs constituted 55 percent of the price the consumer paid for a product. One item which increases the cost of distribution is free service. The consumer should pay for it, but he doesn't realize he is getting it because he isn't tendered a bill. The consumer gets many services for nothing which kite the cost of distribution. If consumer prices

WPB Amendment

All controls on the production and distribution of automotive maintenance equipment have been removed, the War Production Board announced recently, by amendment of L-270, the order under which the industry operates.

Under the amended order, preference ratings and firm allotments assigned for maintenance equipment may be used only for the production of items on list B. Schedule A items will be produced in the future without priorities assistance.

are reduced, the manufacturer may have to take such invisible costs on the chin, unless he gets the truth over to the consumer. In this connection, if free service is given, it might be billed as part of the sales price, or a receipted bill might be tendered for the full price when the job is done. Or all free service might be eliminated, the product reduced in price to satisfy the government, and the consumer charged for whatever service he gets, unless the product is defective.

8. **Service paid for by the consumer after the free service guarantee has expired.** Parts and labor costs on repairs have always been too high. It is no secret that many swindlers operate in service fields. Manufacturers should smoke them out. Dishonest repair men boost distribution costs unduly. The manufacturer is blamed for this. On paid-for service, flat rates should be fixed and the manufacturer should see that they are maintained. It makes a bad impression on a consumer when he has to pay exorbitant rates for parts and service. In some cases, it would seem that manufacturers permit repair men to get fat rates for service because they assume this creates goodwill in the service fields. In the past, such tactics have inflamed consumers, and have added fuel to the demand for lower distribution costs. It will be far safer to be on the side of the consumer from now on. The siren call of government planners promises more value for his money, and he has fallen into line. The customers are always right. Even if they aren't, there are so many of them that the business man who crosses them has a tough fight on his hands.

Warehouse Firms Merge

In a recent merger of west coast warehouse firms, McLean, the Mover, Inc., pioneer Tacoma organization, became a wholly owned subsidiary of Lyon Van and Storage Co. Dean McLean, of the former company, was named northwest director for the Lyon Co., with headquarters in Seattle.

Industrial Design . . .

(*Continued from page* 17)

tion used, and warehousing procedures. He looks at a warehouse not from the standpoint of cubic capacity available, but from the standpoint of the product which must be stored therein. He investigates marketing methods, because very often he can accelerate sales by a change in product design or package "put-up."

When the industrial designer completes his survey, the recommendations he makes are not the result of guesswork. They are based on a science which is as precise as mathematics.

Distribution today is the jig-saw puzzle with which management must wrestle. Since industrial design applies to each of the pieces already in place, and to all of them collectively, we believe it to be the key segment of the puzzle.

for LOADING and UNLOADING.. you can't beat a Salsbury... with its Automatic Clutch and Transmission

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Model STT
Width 42", length 65"
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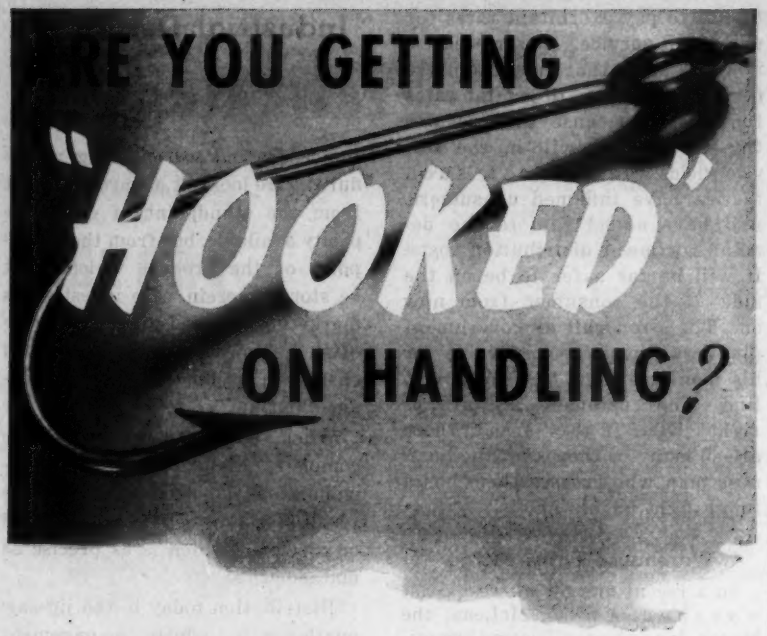

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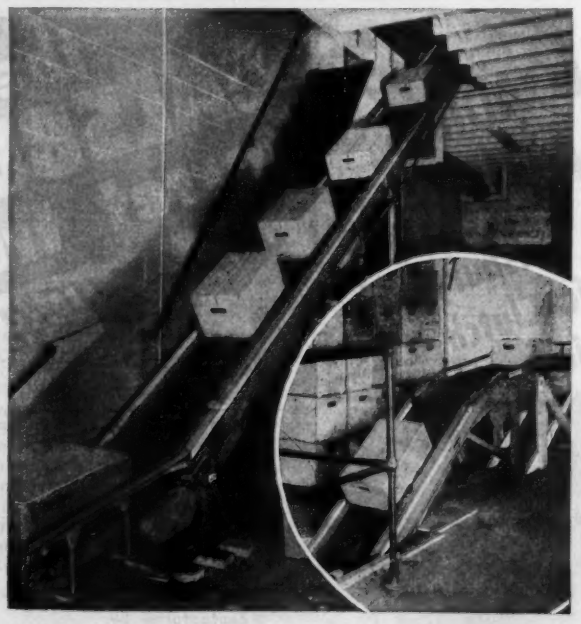
Hundreds of satisfied users are our testimonial of its efficiency. Get off the "hook" of between-floor handling headaches! Write for detailed information today!



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The Rapids-Standard Co., Inc.

Sales Division—390 Peoples National Bank Bldg., Grand Rapids 2, Michigan

Cost Factors . . .

(*Continued from page* 54)

2—Materials handling inwards: unloading from freight cars, motor trucks, etc.; maintenance and operating of electric lift trucks, etc.; placing of materials in stock room and all cost of receiving and storing after delivery to plant.

3—Materials handling outwards: crating and similarly preparing finished goods for shipment; loading to freight cars and motor trucks; and all other costs prior to delivery to carriers.

4—Freight outwards: freight charges paid to carriers by rail, highway, etc.; demurrage on outbound freight cars; warehouse charges on finished goods; stop-off-for-unloading-intransit charges or any other special charges.

Not listed in the foregoing are such costs as space, light and heat, labor, telegraph, telephone, and postage, and the cost of maintaining and operating a traffic department. All of these should be included in the cost of movement and handling of raw materials and finished products, and properly prorated to their appropriate accounts.

Segregating Costs

Segregation of all costs of transportation of a given company will provide a study for checking these costs for possible reductions. It also will enable management to observe them in relation to other costs. In the final accounting, the segregated items will be apportioned on the basis of freight inwards and materials handling inwards to production, and with materials handling outwards and freight outwards to distribution.

Some folks will argue that small costs of transportation can be directly allocated to an "overhead" account and entered as "miscellaneous transportation." This may be the practical thing to do where transportation plays little part in a company's business. In general, however, all transportation costs should be isolated, prior to final allocation, in order to assist management in reaching decisions based on knowledge.

Non-Scheduled Air Transport

(*Continued from page* 50)

as far as non-scheduled operations are concerned, from past developments in motor transportation.

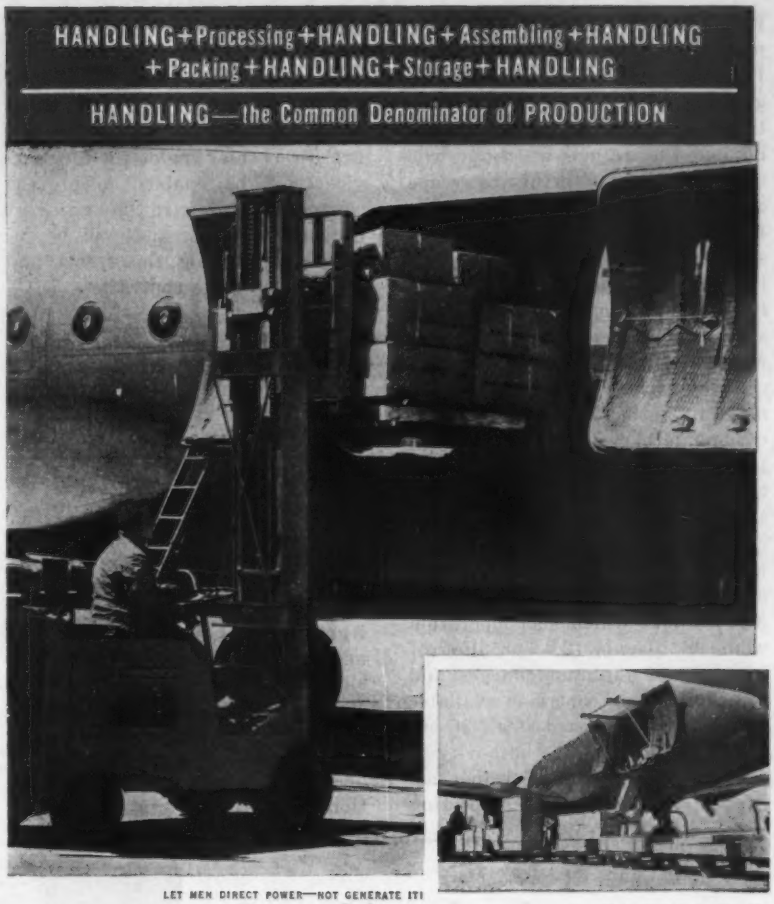
It is admitted that motor carrier and air carrier transportation have much in common. In fact, the Civil Aeronautics Act of 1938 in many of its features was modeled after the Motor Carrier Act of 1935, but there are certainly very important inherent differences. Whether, following the CAB study of the evidence presented at its investigation, non-scheduled air transportation will, for purposes of regulation, lose its identity or be recognized even more than it has been in the past remains to be seen.

Motor Carriers

But there is the precedent set by the Interstate Commerce Commission in 1937 when that body recognized that different types of motor carriers required different types of regulation. They investigated the need for a classification to facilitate the identification and description of operations they might be called upon to certificate and reached the conclusion that each motor carrier of property should be classified on the basis of three analytical factors: (1) Type of carrier. (2) Type of service. (3) Type of commodities transported.

The Commission next set up some 17 commodity groups, each deemed worthy of individual identification. In the classification of type of service both scheduled and non-scheduled operations were to be recognized but it is interesting to note that the certificates which have been issued by the ICC make no such distinction. Routes are designated and commodities are specified, but other than a requirement that service must be adequate, the distinction between scheduled and non-scheduled is ignored. Many seem to think that the CAB should follow this method.

Contract carriage will certainly develop in the air transport field.



Effective distribution, the final phase of the production cycle, is predicated upon a good handling system. Distribution is concerned only with the finished product, representing the total cost of production, and is the end towards which all production efficiency is directed.

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It is one of the most promising phases of air cargo transportation. It should not be prevented from growing by any arbitrary restrictions; but likewise it should not become the refuge of those who employ it as a subterfuge to escape common carrier regulation while in reality they are performing such services. The industry should profit from past experience, particularly in the motor carrier field, and should secure legislation now that will authorize the CAB to regulate contract carriers by air. It should not wait until a large vested interest has developed that, on one pretext or another, will resist regulation, but at the same time enlarge the field of operations.

The scope of the regulatory authority should include: (1) Permits to engage in contract carrying, without which such operation would be illegal. (2) The filing of schedules of minimum charges, and copies of actual contracts available at least to the Board itself if not to the public. (3) The authority to prescribe the form in which accounts and statistics respecting contract operations shall be kept, and to require periodic reports of operations to the Board. In this manner the Board will at all times possess knowledge regarding the growth of this type of for-hire service; will be enabled to prevent common carrying in the guise of contract carriers, and will be informed regarding the terms and conditions of the contracts.

Flexibility Essential

It does not follow that the development of air cargo transport by others than the airlines will exactly follow that of the motor truck, nor does it mean that the regulatory procedures of the Interstate Commerce Commission, including their scheme of classification of carriers, should be adopted as a whole. Rather, by observing what has gone on in the motor carrier field, we obtain a pattern of organization and regulation which may be varied to suit the different circumstances confronting air transportation in its present stage of development. Air transport, especially in its cargo phase, is far less developed than was the motor trucking industry when the ICC took over its regulation in 1935.

Years may elapse before the organization of operators in the air resembles that attained on the highway; and the classification promulgated by the Commission for motor carriers may never be completely applicable to air operators. The Civil Aeronautics Board does not deal with an established order, as did the Interstate Commerce Commission; and considerable flexibil-

Standards for Air Cargo

Federal standards of quality and maturity for airborne fresh fruits and vegetables should be established by the U. S. Department of Agriculture, J. Prescott Blount, manager, perishable air cargo division, United Air Lines, told a recent meeting of the Western Farm Economic Assn. at Fort Collins, Col. "Air cargo will serve agriculture as an entirely new tool in distribution," Mr. Blount said. (Slawson)

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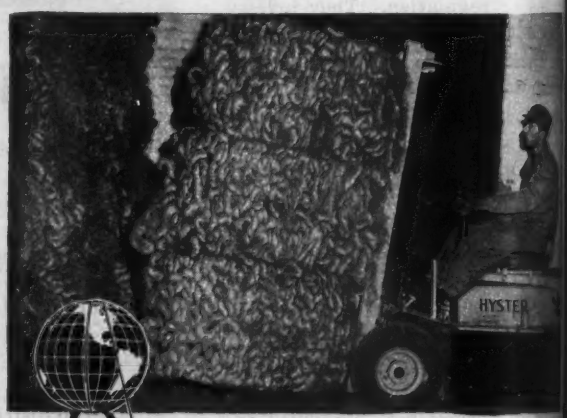

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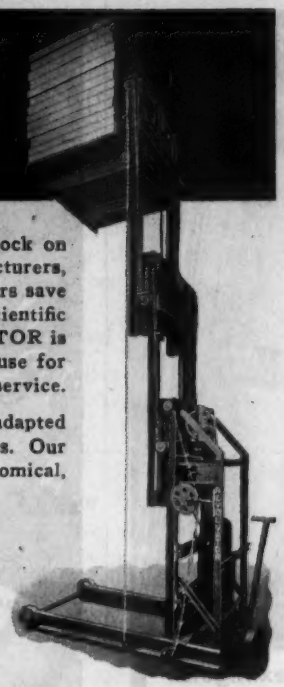

Time and labor were cheap when they piled block on block to build the Pyramids. Today, manufacturers, jobbers, warehousemen, printers, and many others save time and labor by installing REVOLVATOR scientific Material Handling Equipment. No REVOLVATOR is as old as the Pyramids, but many have been in use for over 30 years and are still giving satisfactory service.

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ity should, therefore, characteri the approach to this problem.

As an alternative to the prese strict classification of air transpo services on the basis of whether not they are scheduled, it has be suggested by Robert H. Wood, ed tor, *Aviation News*, that some poli be formulated to permit the follo ing:

1. Operations from a fixed te minal within a defined territo over irregular routes of the oper tor's choice. Such flights would on call and demand service, scheduled where business warran ed.

2. Suitable restrictions on an i regular route operation to preve encroachment on traffic normal handled by a scheduled airline, as well as certain restrictions scheduled lines to prevent encroac ment on independent, irregula route companies.

3. A graded regulatory structur aimed to serve not only the smal independent fixed base operator today but to encourage one- an two-plane enterprises by veteran and wartime aviation trainees. Th structure would make controls s small enterprise as light as possibl but would increase them as th small, irregular route, non-sched uled air service evolved into a mo complex operation approaching re ular route scheduled service.

Global Distribution

(*Continued from page 60*)

with its imports and exports. I this is accomplished, resort to go becomes inconsequential. Expor drafts are paid for by impor drafts. Gold, available normall for purchase in the world's ma kets, simply gives specific interna tional value to the units of all cu rencies exchanged for it. Gold a standard of measure, not of pay ment.

By proper application of mutual ly beneficial trade agreements, sa isfactory disposal of our war sur pluses, and a return to gold as standard of measurement, interna tional distribution can be put on sound and profitable basis in th postwar era.

Railroad Of Tomorrow . . .

(*Continued from page* 41)

tarders will be used to expedite and to classify freight. These yards will be equipped with internal communications systems, using pneumatic tubes, printer-telegraph, and two way wireless telephone conversation between office and yard locomotives. On the line of road, there will be greater use of improved signals and protective devices, and a wider installation of automatic centralized traffic control.

COMMUNICATIONS: Three radio systems are under consideration. One of them is a space radiating system, which blankets an entire area with wave energy, and operates much in the manner of the communications system of a police car. Another method confines the message to within a short distance from the track, and requires conductors at various intervals along the roadway. The third method of electronic communications utilizes the steel rails instead of wire, and may be used when it is impracticable to install a wire system because of physical limitations.

FINANCE: The railroads estimate that they will require $700,000,000 per year to carry out plans under consideration for the next five years. Of this sum, half will be spent on roadways and structures, and half for new equipment. To expend this amount, the railroads believe they will need a net annual income of one billion dollars. Their income now exceeds this figure by more than $100,000,000 per year.

TAXES: Because of their large income and the fact that war shortages in manpower and materials make it impossible to spend the proper percentage for technological improvements, the railroads have been building up large sums of deferred maintenance. They are seeking to convince Congress that this money should be kept in reserve for postwar expenditure. As the income tax law now stands, there can be no deduction for operating expenses or improvements unless the money is actually spent. In

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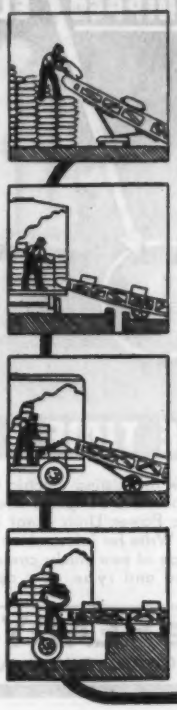

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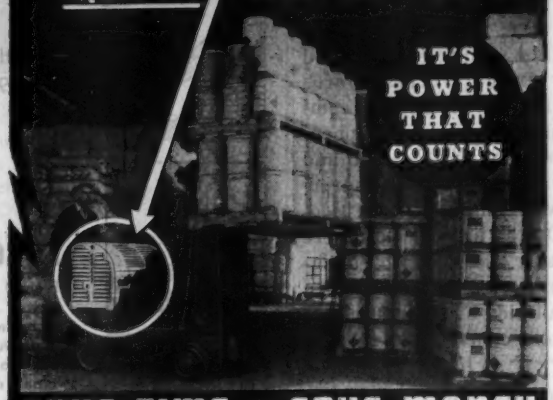

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order to lay aside a dollar for postwar use, many railroads must set aside $5.26, the average of $4.26 representing the amount of taxes.

EDUCATION: The railroads will feature improved equipment, increased service, and war experience in their postwar advertising and publicity. They will attempt, through the use of comparative statistics, to demonstrate to the shipper that rail transportation, in the long run, is the most efficient and economical service available. Part of the publicity campaign will be directed against government subsidies to other modes of transportation.

COMPETITION: The postwar race for the shipper's dollar will be a furious one, with air cargo planes, motor trucks, water carriers, and pipeline operators striving to cut into the business of the railroads. At present, about 70 per cent of all freight moves by rail. The railroads will bend all their inherent resourcefulness and tested efficiency to the task of maintaining their quantitative superiority, for "empty space in a box car is the one load that can break the back of the iron horse."

Joint Facility Terminal Planned

Plans for the construction of a joint facility lake coal and ore terminal on the east shore of Maumee Bay, on the lake front, Toledo, were announced recently by Gustave Metzman, president, New York Central Railroad Co., and R. B. White, president, Baltimore & Ohio Railroad Co.

The Ohio Legislature recently passed, and the Governor has approved, an enabling act under which this project may be carried out. Before construction can be undertaken, however, approval of the Interstate Commerce Commission is required.

The Class Rate Decision

(*Continued from page 77*)

but have less capacity than a freight car, and density or weight per cubic foot became factors of greater importance, though other factors still were considered. Such competition had profound effect upon classification ratings, as indicated by the fact that the southern railroads, to meet it, in Sept., 1940, published 3600 exceptions to their classification, affecting l. c. l. movements, and by doing so, destroyed, in a large measure, such uniformity as had existed in the ratings on l. c. l. shipments.

The carriers say changing conditions and the varying force of competition compel them to give certain factors almost exclusive consideration and to eliminate other factors; that to assign articles to given ratings and to hold them there to preserve uniformity would freeze the rate pattern, and destroy flexibility. Flexibility could not be obtained under a uniform classification except by the establishment of exception ratings and commodity rates, and if they were established in large numbers there would be only theoretical uniformity, and the actual situation would remain the same.

The Commission was not persuaded by these arguments. It says that "there must be a pattern." Uniformity is possible, it believes, as shown by the progress that has been made in recent years, and in the fact that there is now substantial uniformity of the first three classes. While not persuaded that the official classification is a perfect pattern, it was regarded by the parties as comporting best with the requirements of the statute. But there should be, the Commission says, no implication that it is entirely suitable for general application, as is evidenced by the large number of exceptions and commodity rates. It will be necessary to examine the exceptions upon their merits, and, "as far as possible, to weave them into the going classification." This statement seems to make it clear there will be a pre-disposition on the part of the Commission in favor of "weaving rates" into conformity with the ultimate class rate structure. It also indicates that in the future shippers and railroads must take into consideration the fact that the Commission will be less inclined to con-

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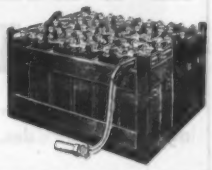

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Everywhere—under exacting conditions—ACLC Hoist Hooks are doing the big, important jobs . . . faster and better . . . with greater safety to life, limb and load.

- Patented construction which includes a self-mousing action, provides true alignment of load and hoist; eliminates load slippage and hook straightening.
- Sheering of pin would fail to dislodge load. Safety shoulders and lip lock would still hold.
- No snagging on hatches, cornices, etc. —a common fault in ordinary hooks.
- Each size of ACLC Safety Hoist Hook replaces 4 sizes of ordinary hooks, resulting in SUBSTANTIAL SAVINGS in inventory.
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sider commercial and competitive conditions in deciding cases.

Radical changes will be required. Numerous rate revisions will be necessary. Immediately, the changes will not be serious. As stated, class rates today, move only a small portion of the tonnage. The difficulties will start when the process of "weaving" the commodity and exception rates into the class rate structure begins. The Commission denies that uniformity is sought for uniformity's sake, but whatever is sought, greater simplicity in tariffs will be achieved. If exceptions and commodity rates are eliminated to a substantial degree, and the classification is made to apply, the task of locating a rate will be far more simple. For those who seek simplicity and convenience uniformity will be a gain. But in gaining uniformity, will we have lost something of greater value? That is a question we are not attempting to answer in this article.

On the other hand, one may get a glimpse of the changes which are to result. In Table 3, accompanying this article, are listed the percentages of first class now effective in official, southern, and southwestern (also western) territories together with the rates for a distance of 598 miles in each of three territories. To these are added the prescribed rates based on the uniform ratings.

As an example, from the table it will be noted that the present first class rate for 598 miles in official territory is $1.32 per 100 lb., with a fourth class rate of 66c per 100 lb. based on the official percentage of 50 percent of first class for the fourth class rate. For the same distance in southern territory the present first class rate is $2.12 per 100 lb. with a fourth class rate of $1.17 per 100 lb. based on the southern percentage of 55 percent of first class for the fourth class rate. But, with the prescribed rates the first class rate both in official and southern territories may move to $1.55 per 100 lb. for 598 miles with a fourth class rate of 78c per 100 lb. In other words official territory may take an increase of 23c. per 100 lb. on the first class rate whereas in southern territory there may be a reduction of 57c per 100 lb. for the 598 miles distance.

In examining this table one must note the difference in percentage relationships of classes now existing in the three territories. The figures herein given stand strictly on the class designations applying in each territory and in no way refer to exceptions or commodity rates. For instance, note that fourth class in official territory is 50 percent of first class, whereas in southern the fourth class in 55 percent of first class applicable in that territory.

Retailing . . .

(*Continued from page 23*)

gaged in war production. Nor will it, I'm very sure, be tolerated by our government.

Distribution Costs

Perhaps it would not be oversimplifying the problem to state it this way. It will mean a gigantic merchandising job, with all that the term implies. It will mean moving more goods toward people, and more people toward goods.

There has been much talk of the high cost of distribution, and the added charge has been made that retailing has lagged behind manufacturing in the simplification and standardization of methods. The best and shortest answer to this claim was given recently by one of our best known economists. In substance, this is what he declared.

"When it is said that something more than 50 per cent of the final price paid by the consumer represents distribution costs, it is seldom realized that part of the amount is accounted for by the manufacturer's share of the distribution costs, including transportation, wholesaling, and sundry other expenses which occur before the goods reach the retailer."

Differentials

The differentials between manufacturers' selling prices and the cost of their raw materials are seldom published. If such information were continuously exposed to public view in exactly the same way as merchandise cost is shown in retail expense studies, we would doubtless soon hear much talk about the high cost of production, and many of the more vocal critics of merchandising would perhaps conclude that retailing is a much less expensive operation than manufacturing.

Mass production should never be confused with distribution to the masses!

Veteran Expediters!

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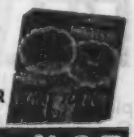

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Postwar Terminal Operations

(*Continued from page 61*)

The inability or refusal of an operator to keep his terminal floor free of stored freight has been the cause of much trouble in the past. One of the most helpful government terminal rulings is the requirement of the War Shipping Administration that no freight be permitted to remain on an ocean carrier's pier longer than five days.

The functions of a terminal for the transit of freight were never intended to supplant that of a warehouse. The necessity for keeping the transit shed free of stored freight is of the utmost importance.

The ideal terminal operation is one in which freight moves directly from one carrier to another without being placed on the pier floor. This is not always practicable because of the impossibility of synchronizing delivery and loading schedules. Much of the freight must be held in the transit shed for a period of hours, and sometimes for days before it can be moved, but it is the intent of every progressive terminal executive to hold these periods of detention to a minimum.

Army Practices

Close study should be given to the possibility of accomplishing greater terminal efficiency through the use of mechanical equipment. In initiating such a study, the operator will do well to observe the practices of the army and navy in the handling of military supplies at various depots and terminals throughout the country.

Perhaps the most advanced step in the handling of package freight was that taken by the navy in ordering the palletization of all their shipments. An inspection of traffic at a navy depot or terminal will reveal the success that has been achieved in palletizing many classifications of freight. Savings in time brought about by the use of palletized unit loads have been amazing. Records showing what has been accomplished by this method as compared with manual

handling of individual packages, indicate positive and worthwhile savings in freight handling and terminal costs.

The pallet is here to stay, and steamship operators will do well to study their potentialities. Some shipping lines are already using pallets to advantage in their terminals for the transfer of trucked freight, and are reporting savings in labor and rehandling costs as a result.

Pier Operations

In all terminal operations, whether they involve steamships, railroad cars, or motor trucks, there is one fundamental principle covering the handling of cargo that should constantly be kept in mind. Assuming that freight must be held to await stowage, it should be unloaded from the delivering carrier and floored as close as possible to the hatch, or that part of the ship in which it is to be stowed. The shorter the distance that freight must be moved from pier floor to ship's tackle, the less expensive the operation. Freight that must be

This new Bassick Caster is an improved type especially for service on power-pulled trailer trucks. It has . . . ⅝" diameter balls rolling, in machined raceways, on a 6½" diameter ball race. Timken roller thrust bearing. Heavy gauge steel plate in frame and top plate. Heavy-duty semi-steel or iron core rubber-tread roller-bearing wheels. Alemite pressure lubrication. Bassick Trailer Casters come in 8", 10" and 12" sizes, with either standard or "Floating-Hub" (shock-absorbing sprung wheel) construction. Swivel or rigid type. Write us.

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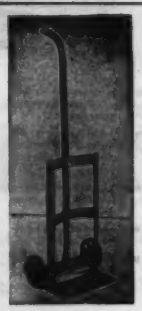

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trucked from one end of the pier to the cargo door or hatchway at the other end, travels several hundred feet. Consequently, the time and effort involved in such a long haul may be several times that required to move freight floored in the immediate vicinity of the ship's tackle. The question of short-haul of pier freight is of importance, and should never be ignored.

For greatest economy, the short-haul principle must be directly related to the proper use of various types of mobile and mechanical handling equipment now available. For all operations involving the handling of freight in a terminal, there is a correct piece of equipment. Tractor-trailer trains and units, the fork truck with its varied uses, portable cranes, conveyors, etc., all have specific applications which will produce maximum efficiency and economy. While it is true that all of this equipment is at times used interchangeably, such procedure frequently results in a sacrifice of efficiency.

The subject of mechanical handling equipment and its proper use in terminal operations is one that can be studied profitably by every terminal executive. It is of sufficient importance to warrant the special attention of a member of the terminal staff, who should be assigned to study and report results and make recommendations for the future guidance of operating executives.

Shipping Insurance

The War Shipping Administration recently announced its withdrawal from the cargo-war-risk insurance field with the termination of all WSA open cargo policies. This action brings to a conclusion a broad program of insuring cargo war risks inaugurated in 1942, and is an outgrowth of previous steps taken by the WSA.

Research Department

American Waterways Operators, Inc., has formed a statistical and research department to compile all facts and figures of interest to the industry, Chester C. Thompson, president, announced recently in Washington, D. C. Special attention will be given to statistics dealing with tonnage rates, types of traffic, and wage payments. (Kline)

In This Corner . . .

(Continued from page 65)

pioneers to recognize this fact and think ahead to integrated production. Today, mass production, as we know it, is inseparable from the integrated flow of materials, parts and processes from the receiving platform to the shipping platform, and further than this, on both ends, from the supplier to the customer.

Analysis and Research

Except in the automobile industry, and one or two other exceptionally progressive ones, this same lack of recognition of the importance of the handling element of cost was the early rule in the larger number of our manufacturing plants. It has only been during the past 25 years that most of our factory managers have come to recognize the vital importance of inter-operational handling and begun to explore its principles scientifically through the same fertile analysis and research that have been so successfully applied to production.

There is still a great deal of room left for improvement in most of our factories with respect to this element of cost. Perhaps it is a good thing that there is, because it affords a further opportunity of cost reduction so sorely needed in our postwar economic picture.

Our economic postwar problem of increasing purchasing power resolves itself into that of increasing the differential between wages and prices. Wages, after all, are only good for what they will buy. We have found that the most practical way to make wages or in fact any income go further is to enlarge our market and its consuming power by decreasing costs and prices. With the intense and thorough study that has already been given to production technique, I repeat that our greatest hope in this direction lies in the coming efforts of our trained distribution engineers.

The future economic battle of the century shapes up as our friend the announcer in Madison Square Garden would say: "In this corner the challenger for the heavyweight title —Kid Distribution, and in this corner the present title holder and champion—High Consumer Cost."

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Hydraulic Lift Trucks, Two and Four-Wheel Trucks, Tiering Machines, Skid Platforms, Barrel Trucks and Racks, Portable Elevators and Special Equipment

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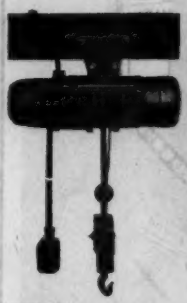
For faster, easier and lower cost handling of all kinds of loads in and out of warehouses . . . loading platforms . . . stockrooms, etc.—use P&H Electric Hoists. Here is touch-of-a-button lifting, carrying and placing — exactly where wanted—without rehandling. Electricity does the work.



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Traffic Management

(*Continued from page 42*)

wherever distribution is involved there is need for a traffic manager, and the more volume of business transacted, the greater becomes the need. The application of an efficient and experienced mind to traffic problems will greatly enhance opportunity for such expansion and growth.

Useful Tasks

Business does not employ men to secure positions solely that they may adorn the company payroll. Department managers and business specialists are employed because they can, and do, contribute certain definite knowledge and services which are of value in reducing the expense of conducting business, in improving the efficiency of business, or in expanding and improving business. A traffic manager fulfills all three of these functions.

The traffic department performs a number of useful and serviceable routine duties, which are listed in full later in this article. Although these duties are routine, they are not to be dismissed as being of little importance because they happen to be well known. It must be remembered that the executive heads of industry depend upon traffic departments to perform these functions, and judge industrial traffic managers by their ability to discharge these duties well. Money can be saved or lost in every one of these service functions, depending upon whether they are well done or carelessly performed.

Traffic departments can, and should, do much more than perform these routine, or service functions. These are just the beginning. In discharging their duties, traffic managers direct their departments in activities which result in improving the methods used by the industries which employ them. The work goes far beyond the routine of the department, and involves all aspects of distribution.

(*Continued Next Month*)

Ask the Traffic Manager

When planning new plant facilities, including the handling of incoming and outgoing freight, it is a good idea to get the advice of the traffic manager, says Les Allman, vice president, Fruehauf Trailer Co.

"The traffic manager is trained in handling transportation. He knows where delays can occur, and he knows shortcuts which will expedite traffic either inbound or outbound. Give him a chance to express himself when planning new facilities or when modifying old ones," says Mr. Allman.

The Co-ops . . .

(*Continued from page* 21)

he gets the difference in a patronage dividend.

Traffic and Advertising

Since the farmer, not the consumer, pays the freight, the co-op watches freight rates, and is not inclined to favor one railroad's solicitor over another. Shipments move by the most direct route, at the least possible rate and when rate hearings are held before regulatory bodies, a co-op traffic manager presents the farmer's case in the issue involved.

The co-ops collect the farmer's pay from the buyer and, if the latter's credit is uncertain, he is sometimes obliged to post a bond guaranteeing the producer against loss.

The co-ops stimulate demand for their products, citrus fruits being a notable example. Production of oranges in the United States more than tripled between 1920 and 1940. Grapefruit production was quadrupled in the same two decades, while lemon production expanded from 4,532,000 boxes in the 1919-20 season to 11,322,000 boxes in 1938-39.

There's a reason, of course. The co-ops, interested in increasing sales, taught the consumer to like them and use them. United States production of citrus fruit is sufficiently large now to satisfy all domestic demand and permit some export as well, an accomplishment for which cooperative effort is largely responsible.

Objectives Simple

Broadly summarizing, the prime objective of cooperative marketing associations is to correct unsatisfactory market practices through collective action, and to work for higher returns through planned production and a minimum of marketing expense. The association provide for assembling, processing, preparing for market, handling and equitable distribution of the product they deal in, and safeguard the general interest of their members for the mutual benefit of all. Farmers outside the organizations also benefit thereby.

(*Continued Next Month*)

Electric Protection
against
Fire • Burglary • Holdup

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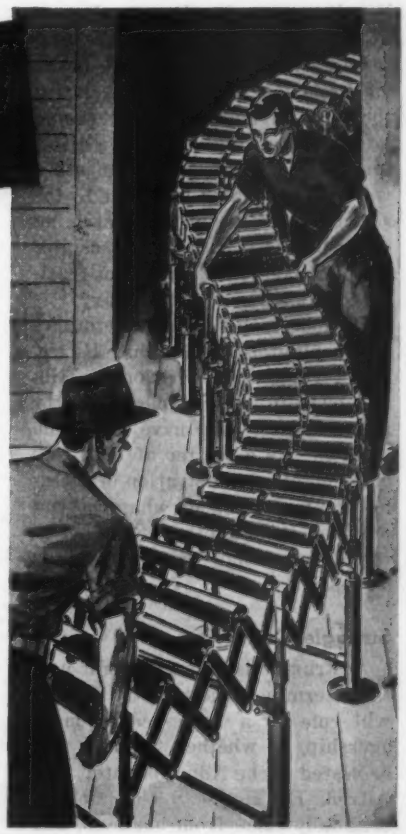
FMC ACCORDION CONVEYOR



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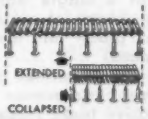
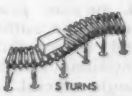
Roller design keeps box on conveyor regardless of curves.





FOOD MACHINERY CORPORATION
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War Surplus . . .

(*Continued from page* 19)

Pacific Coast, is chiefly endowed with political and military tastes. In short, that is the Board.

Add the Board to the law that Congress perpetrated, and you should be able to get a glimmering of what ails this institution that is given the responsibility for disposing of 100 billion dollars worth of the nation's assets.

Set-up Questionable

Senator Gillette's letter to his Senatorial colleagues makes quite clear why you cannot put the blame for the mess wholly upon Congress and upon the White House and the people out there in the wide open spaces. The situation really seems to be inherent in our way of life. Senator Gillette is an independent fighting Democrat from Iowa. He took the chairmanship of the Board, convinced that it would be relatively easy to conduct the disposal of the vast ocean of surpluses under the direction of a Board. But in his letter to his colleagues he confesses, without reservations, he no longer believes a Board can do the job. He suggests the task should be given to a single person, a director, or an administrator. In other words, the Senator has come to the reluctant conclusion, after striving to do business with two associates as co-managers, that it is not feasible to run a business that way.

Obviously, there are many others in Washington, in the White House, in government agencies, on the Hill, and even in the Surplus Property Board offices, who have the same opinion. As a matter of fact, this question of administration or direction or management, whatever you may call it, is another symptom of the disease that troubles surplus disposal.

Struggle Going On

A struggle is going on right now to determine whether the Board will rule as a three-headed managership, or whether the rule will be vested in the Administrator, Col. Alfred E. Howse. The Colonel originally came from business, and has the reputation in Washington of being an excellent administrator, even though he is inclined toward regimentation in his operation of the Surplus Property Board.

It is expected W. Stewart Symington, of St. Louis, a friend of President Truman will be approved by the Senate as the successor of Senator Gillette, after the Senate Committee asks him some embarrassing questions. The impression at the White House seems to be that Mr. Symington has business ability, is forceful, and will eventually be able to do a job.

No Scandal

There is little inclination in Washington to believe that there is a Teapot Dome scandal brewing in surplus. But it is generally assumed that there are instances, probably relatively rare, when the law is not fractured, but when the regulations under the law are so written, or are so construed, that it might be easier for a friend to procure some article of surplus property than it would be for a stranger. Contrary to general impression, these transactions do not spring from graft, but usually are the result of the superior social technique of the buyer.

One of the most outstanding failures of the law is the lack of clarity in defining the terms for the disposal of industrial real estate and industrial plants, including warehouses estimated at a gross value of 16 billion dollars. Congress intends to keep its hand on the disposal or leasing of such property, but the law is so indeterminate that the Board apparently has been very cautious about making any but the most innocuous deals.

Surplus Abroad

It is estimated that at least 50% of all surplus property is in foreign areas; which means, obviously, that 50 billion dollars worth of every describable kind of surplus, from pins to railroad systems, will be given or sold to any one who will take it and for local currencies not dollars. Washington accepts as a certainty the suggestion that none of it will come back. The disposal has been delegated to the Office of the Army-Navy Liquidation Commissioner.

It is not feasible to talk figures intelligently about any surplus except in the most general terms. Some authorities tell us that something approaching 70 billion dollars in the surplus total represents aircraft. Another responsible source calculates that the surplus consumer goods, and the surplus to be marketed through the RFC agencies, will gross somewhere between 15 and 20 billion dollars. The consumer goods are being sold in a cumbersome manner by the Department of Commerce.

The most business-like method now in operation is conducted by RFC. It sells what might be classified as capital goods. You are able to go into RFC and buy swiftly at a fixed price almost as if you were doing business in a mercantile establishment. The latest report by the Surplus Property Board states 357 million dollars of surplus property has been sold the past 12 months. It has on hand cash amounting to $196,513,000 realized from these sales. Its inventory at the end of the year was one billion, 936 million dollars worth of goods, at the prices paid originally for the property.

Obviously these figures by no means cover the worth or the returns received from the disposal of all surplus property.

Truman Urges Single Administrator

In a special letter to Congress recently, President Truman recommended that a single administrator be placed in charge of surplus property disposal in place of the present three-man board.

The President contended that "effective performance of the vast administrative tasks remaining for the disposal of surplus property imperatively requires the authority to make decisions, and responsibility for making those decisions should be centralized in a single official."

House leaders indicated that a bill would be introduced shortly to carry out the President's recommendation, but they expect no action to be taken until the fall session.